Small Farmers, Big Business

Contract Farming and Rural Development

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First published 1990

Published by
THE MACMILLAN PRESS LTD
Houndmills, Basingstoke, Hampshire RG21 2XS
and London
Companies and representatives
throughout the world

Printed in Great Britain by
WBC Print Ltd., Bridgend, Mid Glam.

British Library Cataloguing in Publication Data
Glover, David
Small farmers, big business : contract farming and rural development. – (Macmillan international political economy series).
1. Small-scale agricultural industries
I. Title II. Kusterer, Ken
338.1

ISBN 0–333–52407–1

To Merlie and Erica; and to Faith, Jed, Todd and Elena

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Acknowledgements

The authors would like to express their appreciation to the many people whose support and advice made this book possible. These include the farmers, project managers, policy makers and scholars who generously contributed their time to the research process and Pauline Dole and Marleny Tanaka who typed the manuscript with their customary efficiency. The financial support of the Social Sciences and Humanities Research Council and the US Agency for International Development is gratefully acknowledged.

Portions of Chapters 1, 7 and 8 first appeared under David Glover's name in *World Development*. The views expressed in the book are those of the authors and not necessarily those of their institutions.

David Glover and
Ken Kusterer
June, 1989

1 Introduction

Small farmers in both developed and developing countries share certain basic goals. For the most part, they wish to increase the security and income of their families while retaining their independence as owners and operators of a farm enterprise. It has become increasingly difficult to pursue these goals simultaneously. Farmers have been pulled by the increasing demands of the market and the state into a nexus of relationships that extend beyond the farm to the national and international level.

The interaction between smallholders and more powerful economic and political agents is not new. What characterizes the contemporary situation is the variety of forces with which small farmers must deal. To the traditional relationships with individuals (landlords, moneylenders, traders) and with the agents of the state (tax collectors, law enforcers) has been added an array of powerful organizations. The most significant of these are public enterprises with monopolies over input and output marketing, authorities of integrated rural development projects, and large domestic or foreign corporations. The size, complexity and impersonality of these organizations has resulted in a qualitative change in the nature of the smallholder's relationships to the outside world.

One of the relationships which has been least explored is that between agribusiness and the small farmer. The term 'agribusiness' has been used to cover such a variety of phenomena that definition is difficult, but it generally refers to the activities of a private firm, alone or in joint ventures with public agencies, in the production, processing or marketing of agricultural or agriculture-related goods and services. This very broad definition includes international commodity trade (Cargill), farm machinery manufacturers (Massey-Ferguson), agro-chemical suppliers (CIBA-Geigy), produce canners and packers (Heinz, Del Monte) and plantation owners (United Brands). Many firms, including some mentioned above, are highly diversified and operate in several of these fields; Unilever is perhaps the best-known example.

Among this array of agribusiness activities, the one which entails the most direct and the most complex relationships between large corporations and small farmers is contract farming (CF). In this system, the firm replaces or supplements company production of agricultural

commodities with purchases from local farmers through contracts. The contracts specify several conditions of sale and obligate the firm to provide technical assistance, agro-chemicals and other services. The system has long been practised in developed countries, where it accounts for about 15% of agricultural output (Mighell, 1972); its use in developing countries is also significant and increasing. The system is used by both domestic firms and transnational corporations (TNCs).

The logic of contract farming is discussed in detail in a subsequent section of this chapter. At this point, it is sufficient to note three general considerations. First, these contracts provide advantages to both the firm and its growers, particularly with respect to risk and uncertainty. Prices, quantities and quality standards are often preset, allowing growers an assured market for their produce and firms an assured volume of material of consistent quality. The relationship is one of close interdependence between the firm and its suppliers.

Second, since the operations often include the introduction of new crops and techniques and generally involve processing or packing in factory-style operations, the social impact of these schemes can be wide ranging and often extends beyond the contract farmers to hired labour, other household members and rural communities in general.

Third, these operations involve companies of substantial size, sometimes operating in concert with government institutions and lending agencies. The coalition of interests within such an agribusiness venture can be complex and, from the farmer's point of view, formidable. Within the broad interdependence mentioned previously, there is considerable room for conflicts of interest, exploitation and bargaining, with internal dynamics changing significantly over time.

This book attempts a comprehensive assessment of one particular form of agribusiness – contract farming – and its social impact in developed and developing countries. It draws on case studies from Canada, Latin America and Africa, most of them based on the authors' fieldwork. It covers private schemes and public–private joint ventures, domestic and transnational firms and traditional and non-traditional commodities. Each case study focuses on the economic logic of the agribusiness–grower relationship, its social impact on the rural community and the ways in which farmers have responded. The aim is to identify those elements which have produced viable schemes beneficial to local communities and to provide policy advice for firms, farmers' organizations, and governments.

THEORY AND PRACTICE OF CONTRACT FARMING

In contract farming, a central processing or exporting unit purchases the harvests of independent farmers. These purchases can supplement or substitute for company production. The terms of the purchase are arranged in advance through contracts, the exact nature of which varies considerably from case to case. Contracts are generally signed at planting time and specify how much produce the company will buy and what price it will pay for it. Often the firm provides credit, inputs, farm–machinery rentals and technical advice and it always retains the right to reject substandard produce.

Contracting is most commonly practised by food processing firms. Since their processing plants have high fixed costs, these firms have an interest in keeping raw material inflows at a steady level close to plant capacity. Relying on open market purchases is unlikely to achieve this. Contracts, on the other hand, can specify planting dates (and thus, indirectly, delivery dates) as well as total quantities to be delivered. The contract reduces much of the uncertainty that would exist if the company simply bought crops on the open market, and gives it some control over the production process (for example, over the variety grown). There is no reason, of course, why the firm cannot use more than one method of obtaining supplies, and some firms use company farms, contract growers and open market purchases as well.

Contracting is fundamentally a way of allocating the distribution of risk between the firm and its growers. The latter assume most of the risks associated with production while the former assumes the risks of marketing the final product. In practical terms, however, considerable interdependence exists between the two parties. A supply cut-off will affect the company's final product sales just as a downturn in sales will result in a decline in the firm's demand for raw materials. How risks are allocated is specified in the contract and there is a great deal of variation between contracts. In some, the grower and firm agree to trade a certain volume of production; in such cases, the grower bears the risk of variations in yield. In others, the firm bears this risk by accepting all production from a specified acreage. The price is usually set in advance, but in some cases the firm pays the market price at the time of delivery. A wide range of pricing formulae are also found, some of which are mentioned by Kirsch (1976, p. 19):

> prices calculated according to the state of the market (in between the market price and a basic price; average prices over a period of

time, pooling prices); prices taken from current market prices (fixed difference to market prices; market prices limited to a fixed latitude between maximum and minimum fixed prices; average prices taken from several quotations).

Contracts can be thought of as varying in 'intensity'. In some cases, the company pays the market price at delivery time and exercises little or no control over the production process. (This is most likely to occur when the crop is a non-perishable commodity destined for processing and when market prices do not fluctuate greatly during the buying season.) At the other extreme are cases where prices are fixed at planting time and the company exercises constant supervision over the production process. In some cases, it provides all of the inputs used and either provides planting and harvesting equipment or actually carries out these operations itself. These very 'intense' contracts are common in feedlots and chicken-raising operations, where the firm provides an operator with young animals and feed and purchases the mature animals.

Arriving at a meaningful definition of contract farming is rather difficult, then. Roy, the leading authority on this system as it is practised in the United States, defined it as follows (Roy, 1972, p. 3):

> those contractual arrangements between farmers and other firms, whether oral or written, specifying one or more conditions of production and/or marketing of an agricultural product.

For the purposes of this study, Roy's definition is too broad, since it would include forward contracts, in which only price and volume are set. This book deals with contracting arrangements in which the firm and its suppliers are known to each other and in which the firm's behaviour has some influence over the grower's farming practices. Simple forward contracts, which may be bought and sold many times on an arm's length basis are not of interest here. To exclude forward contracts and others of 'low intensity', let us add two conditions to Roy's definition: first, that the contract be non-transferable and second, that the 'and/or' be changed to 'and'; i.e. that one or more conditions of marketing *and* production be specified.

This relatively simple definition of contract farming is confused in practice, since a great many terms have been used to describe variations of the system. There exists no standard usage; the terms are often used without intending to draw specific distinctions; and

there is considerable overlap among them. The following terms and their connotations are found in the literature and from time to time in this book.

Contract farming: generally connotes a private sector scheme.

Outgrower scheme: generally connotes a government scheme, with a public enterprise purchasing crops from farmers, either on its own or as part of a joint venture with a private firm. The term is most frequently used in Africa and Asia.

Nucleus–outgrower scheme: a variation of the outgrower scheme, in which the project authority also administers a plantation adjacent to the processing plants. Contract purchases supplement plantation production, the proportion varying from case to case.

Satellite farming: a broader term, referring to any of the variations mentioned above.

Multipartite arrangements: similar to outgrower/nucleus–outgrower schemes. The term is usually used to emphasize the participation of several actors, most frequently private firms, government agencies (often more than one in a scheme) and foreign aid agencies.

Since multipartite arrangements are the most complex and appear to be of growing importance, some additional detail on this variation is warranted.

The most common participants in such multipartite arrangements are private firms (usually foreign, occasionally local), the host-country government and/or international aid or lending agencies such as the U.S. Agency for International Development (USAID), the World Bank, or the Commonwealth Development Corporation (CDC). The CDC has been particularly active in this type of scheme. In one common variation, a national development bank provides growers with credit for the purchase of fertilizer, seeds, and the like. At harvest time, the firm pays growers the contract price, but takes off the top a sum that goes to the bank to repay its loan to the grower. In this system, TNCs avoid the problems of assessing creditworthiness and prosecuting defaulters. In some cases, government agencies provide inputs or technical assistance. At the extreme, the TNC has little or no equity in the operation and receives fees through a management contract. In other cases, joint ventures have been established with the TNC, the government, and the growers all

holding shares. Multipartite schemes are common in sugar in East and Southern Africa, in fruits and vegetables in Central America, and in cotton in Francophone Africa (involving the Compagnie Française de Développement de Textiles).

The industry in which contracting is quantitatively most important is bananas, where the three firms which dominate international trade purchase about one-third of their supplies from associate producers. The latter are generally local plantation owners who employ large labour forces. United Brands and Castle & Cooke have bought bananas from associate producers for nearly a hundred years, and the proportion of exports provided by these producers has increased – accelerating since the mid-1950s in response to economic nationalism. (There appears to be little likelihood, however, that the TNCs will withdraw from production altogether.)

The banana multinationals have generally steered away from multipartite arrangements and followed the classic contract farming model. They provide growers with an integrated package of services and inputs (some produced by the TNC's affiliates) and deduct the costs from payments to the farmer at harvest time. Financing is usually the only function delegated to government. The sugar multinationals have gone farthest away from equity ventures and toward management contracts and consultancies. Each of the three major TNCs (Booker McConnell, Tate and Lyle, and Lonrho) currently has management contracts in multipartite arrangements with governments in Africa.

Contract farming is also heavily used in fruit and vegetable production, particularly in Central America. Most frequently, this entails the export of high-value items such as asparagus, cucumbers, melons, or strawberries, with the firm providing quality control, brand names, and marketing channels. Business-oriented growers, cooperatives, and individual small farmers have all been involved. Total LDC employment in CF in these 'non-traditional crops' is much less than that in the traditional crops such as bananas and sugar. However, there is some evidence that it is expanding at a faster rate and that these labour-intensive products are more promising outlets for small farmers. They therefore receive disproportionate attention in this book.

MOTIVES FOR SUBCONTRACTING IN AGRICULTURE

Modern agribusiness involves a coalition of partners, both foreign and domestic, each with different motives and interests. The firm and

its contract growers are always key actors but local government and foreign aid agencies frequently play important roles as well. The possible motives of each actor for participating in contract farming schemes are described below.

For *firms*, delegating production to local agents has a number of benefits beyond the technical advantages described earlier. Contracts allow the company a degree of control over the production process that is often comparable to that obtained on company plantations. On the other hand, the company does not have to invest in land, hire labour or manage large-scale farming operations which may tax the managerial capacity and technical expertise of a primarily industrial firm. Of the broader motives for contracting, avoiding conflicts over landownership and labour issues is probably more significant. Cost advantages may also be possible. For crops requiring much labour and careful attention, smallholder production may be more efficient than plantations; in cases where it is not (e.g. bananas), local plantation owners may be able to achieve lower costs than TNCs by paying lower wages. Local firms are less conspicuous than foreign ones and can often pay workers less and deal more harshly with unions.

Another possible advantage of contract farming is that local growers may find it easier than TNCs to get the local government (or indirectly, international aid agencies) to provide credit for operating capital or for the rehabilitation of plantations. If these sources provide loans at sufficiently low interest rates, the cost of operating or restoring the farms can be kept down, allowing the firm to avoid financial risks. Local purchasing also lessens the risk of expropriation by locating fewer assets within the host country. Contract farming may promote good public relations and present a progressive image by involving local producers. It can also make the companies' wages and social benefits look good in comparison with those paid by local growers.

Finally, contract farming may contribute to the formation of alliances with local businessmen who may defend the TNC's interests on certain issues. The chairman of United Fruit actually went on record in 1962 as saying that this was an important consideration (Jonas and Tobis, 1974, p. 26). How effective the strategy has been in this respect is an empirical question, the answer to which depends on two things. First, where do the interests of contract growers lie? Are they similar to those of the TNC or divergent? Second, how effective have the growers been in articulating those interests? Neither of these questions has been systematically researched.

It should be noted that agribusiness TNCs are not the only firms to engage in subcontracting. Industrial firms, both domestic and foreign, who have also done so, enjoy several advantages. First, it allows the firm to draw on the specialized expertise of a subcontractor (Bauer, 1954, p. 112; Casson, 1979). Second, it permits the achievement of a minimum efficient scale of production at each stage in a process more readily than full vertical integration would allow. (If production at Stage 1 is most efficient at 100,000 units per year and Stage 2 at 150,000, an obvious difficulty arises for a single firm.) Third, managerial efficiency may be enhanced, since vertical integration may make it difficult to isolate inefficiency at one particular stage. Finally, subcontracting can allow greater flexibility in meeting market fluctuations, since it is simpler to cut back on contractual obligations than to reduce the output of a single vertically integrated firm. (It should be noted that some of these advantages are theoretical and have not been verified empirically.)

These considerations have led many firms to engage in production subcontracting, or other contractual relationships which allow the firm to maintain a measure of control without ownership. Such relationships can operate within national boundaries or across them. Subcontracting in Japanese industry has received considerable attention (Caves and Uekusa, 1976; Paine, 1971). The 'new forms' of international investment in mining, manufacturing and services have been exhaustively studied (Oman, 1984). Oman's study shows that non-equity forms of investment, including subcontracting, are widely and perhaps increasingly used in a wide variety of sectors. Electronic firms rely heavily on locally-owned workshops in Mexico and the Far East to produce components which are later assembled and sold under company trademarks. Many copper companies produce ore from nationalized mines, transport it on chartered boats, and sell it to independent smelters. Even financing is increasingly provided by local sources.

In many industries, TNCs retain control over only the most crucial stages in the marketing chain and delegate responsibility for other stages. If the firm retains control of that activity in which barriers to entry are highest, expropriation of production facilities by an LDC government may accomplish little. It is possible that host countries may actually be worse off if, after nationalization, they are forced to bear the brunt of production risks and demand fluctuations, while TNCs reap stable profits from marketing and management contracts. The behaviour of agricultural TNCs in withdrawing from production

is not anomalous, then – it is quite consistent with the recent behaviour of international firms in general.

Small farmers may see contract farming as a way to overcome some of their traditional problems. These problems are numerous and only those to which CF is most relevant are discussed here. First, they face competition from producers who have adopted new technologies but they are often reluctant to adopt these technologies themselves because of the risks and costs involved. (For example, new crop varieties often have higher variances and are more input-intensive than traditional varieties.)

Second, and related to the first, input supply is often weak in LDCs. Whether in response to lack of initiative from the private sector or as a matter of preference, governments have often taken over the supply of fertilizer and other agro-chemicals. Frequently, however, they are unable to supply them in sufficient quantities or in a timely fashion.

Third, agricultural extention is frequently weak, since neither the private nor the public sector is well positioned to provide it. The 'free rider' problem makes it hard for private firms to earn profits from extension while the difficulty of designing appropriate incentive systems for staff weakens public extension agencies.

Fourth, access to credit is difficult. Public credit is generally subsidized and must therefore be rationed; larger and more influential farmers tend to get more than their share. Private credit appears to be more effective in reaching smallholders (von Pischke *et al.*, 1983) but only partially so.

Fifth, local markets for high value perishable goods tend to be very thin and thus highly volatile. While products like fruit and vegetables may be suitable for smallholder production, prices are unpredictable and can drop suddenly and drastically if a few farmers market a day's harvest simultaneously.

Sixth, international markets, which are deeper than local ones, are inaccessible to peasant farmers unless specific channels have been established.

Contract farming has the potential to overcome these problems. The risk reducing aspect of the contract may facilitate technology adoption. Input supply and extension may be superior to government services not necessarily because of private sector expertise, but because the firm has a direct interest in seeing that these are carried out efficiently: the results will be directly reflected in growers' yields

and quality and thus in the firm's profits. Credit provision is facilitated because the firm can deduct loan repayment from crop payments and can use the crop as collateral. The existence of collateral in the form of a crop contract can also make it easier for a grower to get loans from a private or public bank. Since most agribusiness firms process perishable goods or export them to large markets abroad, they do not face thin markets. They can therefore offer growers fixed-priced contracts. Finally, transnational agribusinesses based on developed countries can often provide access to lucrative northern markets, through their expertise, brand names or oligopolistic marketing channels.

Local governments have a variety of motives for supporting contract farming schemes. These schemes avoid foreign ownership of large tracts of land, something nationalist governments in developed as well as developing countries often object to. They may also create expectations that other objectionable features of vertically integrated plantations will be avoided (for example, transfer pricing abuse and enclave effects). Whether those expectations are actually met is an empirical question. Given the complexity of many multipartite arrangements and the quasi-monopoly position which some firms hold in international marketing, it is far from certain that transfer pricing would be more transparent or less subject to abuse. Nor is it clear *a priori* that the delegation of production in itself will create greater value added or employment effects.

Outgrower schemes may also appeal to those governments which have a fundamental distrust of markets and of the spontaneous behaviour of small farmers. In outgrower schemes, growers are organized and often tightly controlled by a central authority. The schemes are often linked with and facilitate resettlement schemes; in some cases, the primary objective is resettlement and the outgrower scheme is simply a way to organize the relocated population. Finally, contracting often creates lucrative opportunities for local businessmen, such as absentee landlords. Those schemes in which the firm provides most services and the grower essentially rents his land are ideally suited to absentee landlords. Such landlords frequently have close ties with government or are politicians themselves.

Foreign aid agencies also find outgrower schemes attractive. These schemes allow the agencies to channel funds in fairly large doses to the priority area of agricultural development, often in least

developed countries in Africa (another donor priority of the 1980s). Donor preferences for private sector involvement can often be satisfied and the frequent involvement of TNCs provides some reassurance about the technical and managerial soundness of the project. Centralized control of the scheme satisfies the misgivings that donors often share with governments about unorganized small farmers. Given the interlocking of TNC, government and donor interests, it is not surprising that multipartite arrangements have become so popular. This interlocking also makes a careful examination of the effects on growers and communities, usually the least powerful members of the coalition, all the more important.

ISSUES FROM THE LITERATURE

Interest in agribusiness increased noticeably during the 1970s and 80s, for a number of reasons. The African famines of 1974 and 1985 focused attention on that continent's continuing crisis in food production. While most development practitioners placed their faith in policy reform and technological research, some observers identified agribusiness as either a cause of or a solution to the food problem. As noted above, aid agencies began to see contract farming as a way to meet production and equity goals simultaneously; this led them to commission a number of evaluative and prescriptive reports. Finally, public corporations came under intense scrutiny as governments tried to reform or justify these institutions to external agencies like the IMF and World Bank; multipartite arrangements were examined in this context as case studies of success or failure.

These concerns have prompted relatively few academic studies of agribusiness. Most studies to date could be grouped in three categories. The first is project evaluations done by development practitioners. Lamb and Muller's (1982) study of the Kenya Tea Development Authority is an example which examines the organizational efficiency of a multipartite arrangement and draws lessons from it for the design of similar institutions. This analysis, while very useful, is relatively restricted in the range of questions it addresses.

A second group of studies might be termed the 'Food First' approach. Examples are Lappé and Collins (1977), George (1976) and Dinham and Hines (1983). This school is highly critical of agribusiness for diverting resources from staple food to cash crop production, for exerting monopoly power over peasant producers,

for promoting inappropriate tastes and technologies, and so forth. The range of issues covered is broader than in the other approaches but a rigorous methodology to address them is frequently lacking. Isolated facts are juxtaposed, then presented as cause and effect and unicausal explanations are offered for diverse and complex phenomena. This weakness stems in large part from heavy reliance on secondary, often journalistic sources of information.

The third school of thought might be termed the business school approach. Examples are Goldberg (1974), Austin (1974) and Williams and Karen (1985). Most of these studies tend to look at agribusiness in terms of the problems it presents to the firm and to neglect the questions of grower welfare and sociological and political questions. Some, particularly Williams and Karen, imply that beneficial outcomes for host countries and peasant farmers are largely the result of goodwill and good management on the part of the firm. Careful analysis of price policies or the technical characteristics of production and processing are usually lacking. As a result, it is difficult to identify the specific factors which lead to disparate outcomes.

While none of these approaches is entirely satisfactory on its own, the agribusiness literature as a whole does suggest some important issues for more systematic investigation. Some of these issues are related to the behaviour or welfare of growers or other groups; others to rural development more generally. Each of these issues is responded to in the Conclusion following the case studies.

(a) What problems do firms and growers most frequently face in contract farming?

While the advantages of CF to firms and growers are clear in theory, in practice problems may arise for both. These may arise from lack of experience with formal contracts or with a new type of contracting partner; from difficulties in implementing the contract as intended; or from attempts by one party to manipulate the other. One would expect many problems to be case-specific and related to the nature of the crop and its production or processing technology. Beyond these, are there problems which are typical of contract farming relationships?

(b) What role do credit and debt play in contract farming?

CF provides growers with a package of inputs and services. The contents of the package and the weight given to each element by

growers will likely vary from case to case. How important is credit as an inducement to enter a contracting relationship? How serious is the resulting indebtedness?

(c) How does contract farming affect risk-bearing by growers?

As noted above, contracting is fundamentally a way of allocating risks between the firm and its growers. What variations can be observed in this respect among cases of CF? What does it imply about the type of grower most likely to enter a contracting relationship?

(d) What changes in income does contract farming produce?

Evaluations of agricultural projects typically emphasize changes in the income of participants. Many of the existing studies provide 'snapshots' of grower income at one point in time. More extended studies would be useful in assessing changes over time, and the secondary effects resulting from reinvestment of the original income.

(e) Does contract farming in LDCs exclude small farmers?

Some critics have alleged that private outgrower schemes are of little value as instruments of development because they rely on large rather than small farmers. A number of studies contradict this generalization, however. Although large growers do seem to be over-represented in the population of contract farmers, they are by no means the only ones to participate in outgrower schemes. This is one question to which virtually all research on contract farming has been very attentive (NACLA, 1976; Laramee, 1975; Morrissy, 1974; Lipton, 1977).

Disagreement over the importance of small farmers may stem in part from definition and measurement problems. What one writer considers a small-scale farmer may not fit another's conception of the term. Area cultivated can be a misleading indicator, particularly if comparisons are made between different crops or different levels of investment: twenty acres of rain-fed barley is relatively small but twenty acres of irrigated tomatoes is a major undertaking. Caution must also be used in interpreting company producer lists. From the company's point of view, it is the area under contract that is significant, not the grower's total acreage. It is not uncommon for the first to be a small fraction of the second so that a small tomato grower, for example, may actually be a large landowner. In this

book, a smallholder is considered to be a grower who relies principally on his family's labour to grow the contract crop.

In general, agribusiness firms do seem to prefer large farmers, but most will deal with whoever is available and some have even sought out small farmers. The main reason for the former preference seems to be the inconvenience of finding many small farmers and furnishing them with contracts, inputs, technical assistance, etc. The firms interviewed by Meissner (1969) also expected more uniform quality and fewer production problems from big farmers. (It may be that the number of problems varies mainly with the number of producers, not with total acreage or volume. A multitude of smallholders probably involves a greater variety of cultivation practices, soils, topography, and so on.)

In cases where firms do deal with small growers (Nestle, 1975; Laramee, 1975), three factors are usually present, either singly or in combination. First, the area most suitable for production may be characterized by small farmer predominance, and the firm simply works with whatever suppliers are available. Second, the local government may encourage the firm to make use of small growers. Third, smallholders may have lower costs of production than large growers or be willing to accept lower prices or greater shares of risk.

(f) What is the social status of contract farmers?

It would also be useful to know, not just how large the contract growers are, but really *who* they are. While Meissner (1969) interviewed firms as to their reasons for contracting and their preferences regarding contract growers, we know less about the social or political status of those growers. Why do some farmers decide to enter a contracting relationship and others not? Are large contract farmers traditional landowners who seize the opportunity to modernize, or are they members of a new class of progressive farmers? Do small growers have previous social relations which encourage or impede their participation? It would also be worthwhile to investigate in more detail the phenomenon of *prestanombres* or 'name-lenders', described by Feder (1977). These people put their names on legal documents but are, in fact, 'front men' for large, sometimes foreign companies. By using prestanombres, the companies are able to evade prohibitions on land ownership.

(g) What are the effects on women?

In many Third World societies, households embody complex divisions of labour and responsibility. Signing the contract with an agribusiness firm, making farming decisions, supplying agricultural labour, receiving payment, making expenditures – each of these functions might be performed by different family members. A contracting relationship which benefits the 'grower', legally defined, may not provide benefits to those who provide the labour and decision making. In many cases, household members have responsibility for different expenditure items and their expenditures must be financed from their own income. The effects of increased household income on investment in physical capital or school fees, on food consumption or family obligations will vary as much with intra-household division of expenditure responsibilities as with the marginal increase in income.

Furthermore, the establishment of an agribusiness may have dynamic effects, changing previously accepted gender and age roles. Women are often employed in packing houses or factories; seasonal work at harvest time may provide income and status for children during school vacations, and so on. In general, the changes in farming practices and income patterns (amount, timing and distribution) which result from agribusiness can be expected to interact with pre-existing household roles in ways that will vary from case to case with the specific characteristics of firms and households.

(h) What are the effects on labour?

Not all outgrowers are owner–operators. Some manage large farms with hired workers and even farmers with small plots of land may hire some labour. In the Latin American banana industry and in the 'nucleus–outgrower' schemes, it should be possible to compare the conditions of workers on the nucleus estate or the parent firm's plantation with those of workers on outgrowers' farms.

(i) Does contract farming promote socio-economic differentiation?

One of the major debates of the 1970s concerned 'peasant differentiation' – the breakdown of a relatively homogeneous subsistence peasantry into a series of strata with different incomes, values and

relationships to the land as the cash economy expanded. The debate continues in discussions of the effects of agribusiness. Given that potential contract farmers differ in ownership of assets, farming skills, degree of risk aversion, and so on, it is reasonable to expect growers to respond differently to agribusiness opportunities (and for agribusinesses to actively seek out particular types of growers, as noted above). In time, the result could be increased differences among contract growers or between those who contract with the firm and those who do not. Alternatively, the centralized control and uniformity of the contracts might tend to produce homogeneity among contract growers. Again, much will depend on the degree of prior homogeneity and the nature of the contracting relationship in each case.

(j) What are the effects of contract farming on farming and management skills?

Morrissy's business school study (1974) treats contract farming as a way of effecting the transfer of agricultural technology from firms to growers. Since the company has a direct interest in increasing the quality of its growers' produce, it may provide technical assistance more conscientiously than would a government agricultural extension service. The resulting learning effects could be of considerable value, especially in cases where farmers have no previous experience in growing the crop in question. Unfortunately, Morrissy does not demonstrate but only assumes that learning is a part of the contracting relationship; one is left unsure as to how often this potential benefit is realized.

Alternatively, a company which deals with a multitude of small growers may not have the managerial capacity to give them all individual attention. If, in addition, it is not confident of growers' skills, it may simply prescribe detailed but standardized procedures and the small farmer's initiative and intimate knowledge of his farm's soil, topography and climate will be wasted. If independent farmers are replaced by contract growers who simply carry out a corporation's orders, valuable skills may be lost.

Finally, it would be worthwhile investigating the degree to which technological invention occurs in agribusiness schemes. There is evidence that some schemes have been successful in extending existing technologies to farmers who were unfamiliar with them before; there is less evidence of schemes which have developed

genuinely new technologies. There may be unrealized potential in these schemes for invention and experimentation, since the controlled environment of an outgrower scheme offers a good framework for interaction between experiment station and technology users.

(k) What are the effects on the process of grower organization?

The degree to which contracting is beneficial to the welfare of outgrowers depends not only on economic variables, but also on related political ones. In particular, it depends on the ability of farmers to organize and bargain collectively. One wonders whether or not outgrower schemes have a common and predictable effect on this process. Does having a single adversary with whom to negotiate promote solidarity among growers or do patron–client relationships arise between growers and the firm to inhibit solidarity?

(l) How does contract farming affect elite–small farmer relationships?

The formal contractual relationships typical of agribusiness, and their frequent emphasis on world markets, are significantly different from the style of interplay between growers and elites in traditional rural societies. Credit, inputs, information and obligations are allocated through different mechanisms. How does the establishment of an agribusiness affect prevailing agrarian relationships?

(m) What are the effects on food production and nutrition?

This is perhaps the most controversial issue in the literature. Most agribusiness schemes involve production of cash crops, often for export. This has attracted criticism that scarce resources are diverted to meet the needs of affluent consumers in cities or developed countries, leaving unsatisfied demands for basic food crops. In this view, not only is the total amount of food available to the nation reduced, but even the food consumption and nutrition of contract growers will suffer as they increasingly specialize in the cash crop.

The opposing view is that specialization according to comparative advantage can increase total food supplies, since an efficient producer of a cash crop should be able to trade his production for a greater amount of food than he could produce with the same resources.

Both arguments rest on thin empirical evidence. The critics

have little data to relate changes in total food production to agribusiness activity and much less about nutrition levels. Advocates of export agriculture have little to say about the intra-country distribution and utilization of export earnings or about the imperfections in world commodity markets which cause actual trade flows to diverge from those indicated by comparative advantage.

(n) What changes in firm–grower relations typically occur over time?

It is likely that significant changes will occur and that a 'snapshot' taken at one moment in time will not convey an accurate picture of the relationship. While many changes will undoubtedly be highly case-specific, others may be more widely observable.

(o) What are the broader rural development effects of contract farming?

Traditional plantation agribusiness has long been criticized for its 'enclave' nature i.e. its failure to provide linkage effects such as demand for local inputs or services which would promote development of the local economy. To what extent is this a problem with the modern varieties of agribusiness based on contract farming? Evidence on the Latin American banana industry indicates that the linkage effects of plantation and contract production are equally slight (Ellis, 1977). Additional research could indicate the extent to which this is true in other crops, countries or variations of agribusiness. Research might also indicate variations in local capacity to respond to opportunities for linkages: a scheme which stimulates local entrepreneurship in one environment might remain an enclave in another.

RESEARCH METHODOLOGY

Fieldwork for this book was carried out between 1977 and 1981 in Latin America and Canada. Ken Kusterer's research evaluated a series of agribusiness projects financed through intermediary credit institutions by USAID. The research itself was also financed by the Agency, sometimes as part of project evaluations, sometimes as follow up investigations of longer term social and developmental impacts. Some evaluations were done entirely by the author while

others involved contributions by local research assistants. David Glover's research was undertaken for a Ph.D. granted by the Department of Political Economy, University of Toronto and involved no research assistants. For each author, the time spent on each case varied, according to the complexity of the case and the level of research funding and time available, between two days (for some of the 'mini cases' described in one of the chapters) and up to six months (for the major cases described in other chapters). Chapters 2 and 3 are based on data collected by Ken Kusterer; Chapters 4 and 5 on data collected or compiled by David Glover. Both authors provide data for Chapter 6.

The methodology employed has been termed 'data triangulation', which involves the collection and cross checking of data from a variety of sources. Findings from any single source are accepted as valid only if they are consistent with data from other sources. The sources and techniques used in these case studies included:

- survey interviews of contract farmers, farm women, processing plant employees and farm workers
- in-depth interviews with farmers, company executives and technicians, government officials, agro–input merchants, bankers, journalists and academics
- examination of company records
- examination of government documents and press clippings
- direct observation of key events.

The chapter on Africa draws on existing studies rather than primary research, updated by interviews with key informants. This provides the book with a broader geographical coverage and a wider range of organizational forms than the authors' fieldwork in the Western Hemisphere would permit.

The book consists essentially of a series of case studies, which use empirical material from Canada, Latin America and Africa to address the issues raised in the Introduction. The first two chapters analyse the experience of small farmers in Guatemala and Peru in growing non-traditional vegetables (new products in the Peruvian case, old products for new markets in Guatemala). In both cases, the impact of agribusiness on both farmers and plant workers was far reaching but varied substantially with the socioeconomic characteristics of the communities. The next case examines the experience of potato farmers in New Brunswick, Canada as they adapt to the

changes stimulated by the establishment and the expansion of a processing industry over a twenty-five year period. A study of two widely-acclaimed projects in Kenya follows, attempting to identify the degree of success achieved in these large, state-directed schemes and the factors that have influenced the outcomes. The last empirical chapter assembles a series of short commodity studies based on the authors' practical experience in Latin America. The concluding chapters return to the research agenda outlined in the Introduction and assess the implications for policy.

2 Frozen Vegetables in Guatemala: Tapping the Small Farmer's Potential

BACKGROUND

Alimentos Congelados, S.A. (ALCOSA) began operations in Guatemala in 1971. Hardly more than a household business at that time, ALCOSA specialized in freezing fruits and vegetables for the small local market and small quantities of specialized products, such as guacamole dip, for export. In 1975, the company was purchased by Hanover Brands, Inc. an American processor and distributor of frozen canned fruits and vegetables. With investments from Hanover and with increased financial support from the Latin American Agribusiness Development Corporation (LAAD), ALCOSA's plant was greatly expanded and its business reoriented toward the processing of large quantities of a few labour-intensive vegetables for the North American market.

Although it has frozen other products in small batches, the great bulk of ALCOSA's production consists of okra, broccoli, cauliflower and brussels sprouts. Okra is a warm weather crop grown in the Department of Zacapa; it is not covered in this chapter. The other three products, however, are cold weather crops best grown in the central highland regions where most of Guatemala's small and indigenous farmers are concentrated. ALCOSA's processing of these products has expanded continually since the company first began production in 1976.

ALCOSA freezes all of these products in its plant at San Jose Pinula, located in the Department of Guatemala some thirteen miles to the southwest of the capital, just off the Pan American Highway to El Salvador. The plant is organized in a classic food processing assembly line format. In one large room women cut and trim the new materials as pieces of broccoli or cauliflower pass before them on an assembly line, sort it according to quality, and return it to smaller assembly lines. In the freezing room, a more automated assembly line blanches and chills the product before sending it into a flow-through freezing unit.

The plant employs between 125 and 300 people, depending on the season. A subcontractor's okra processing shed, during the six months of the year that it is in operation, employs an additional twenty-five to sixty people. At one time, ALCOSA leased extensive land in the area and planted most of its own broccoli, brussels sprouts and hybrid cauliflower. These farms employed up to 400 people at their peak but were gradually phased out as small farmer production increased. The last of ALCOSA's farms were closed out just before the fieldwork for this case study began.

During its first years of operation, ALCOSA had three types of farming operations supplying its raw materials: its own farms, middle size farms operated by agricultural entrepreneurs, and small farms in the highlands. The first to be developed were its own farms, and ALCOSA at one time intended to depend primarily on these. Soon, however, it began to rely more on outgrowers. The first ALCOSA outgrowers were nontraditional commercial farming entrepreneurs, many of whom had other businesses. At first, this group of sophisticated farmers was the easiest for ALCOSA to persuade to start new crops and techniques, but in the slightly longer run, they did not prove to be the best source of supply. Most of them had no previous experience with vegetable production and none of them had experience with ALCOSA's crops. Yields or quality were often too low to return a profit to the farmer and disputes with ALCOSA over prices and quality standards were commonplace.

Meanwhile, experience with small farmers in the highlands was proving more satisfactory and highland purchasing programmes have been continually expanded. By 1980, 95% of all cold weather crops were purchased from small farmers in the highlands.

FIRM-GROWER INTERACTION

During the 1980 growing season, ALCOSA purchased its cauliflower, broccoli and Brussels sprouts primarily from 2,000 small highland farmers. To receive this produce, ALCOSA operated seventeen buying stations in the Departments of Chimaltenango, Sacatapequez and Solola. Three of these were in the villages of Chimachoy, Patzicia and Santiago, where the fieldwork for this case was carried out. About half the buying stations primarily purchased cauliflower and had been open since 1977 or 1978. The others specialized in broccoli

and were opened in 1979 and 1980, as the company stopped buying from larger growers and closed down its own farms.

These simple buying stations provided a sheltered place for classifying and weighing each farmer's deliveries during the rainy season. One corner of each open-sided shed is usually walled off to form a lockable room where equipment is stored. During harvest periods, ALCOSA employees operate each shed two to four days a week. On buying days trucks bring empty baskets from the factory; farmers then classify and pack their products into these baskets, and the product is weighed. After weighing, the farmer gets a receipt for the delivery: the product has then been formally transferred to ALCOSA.

Although some elements are standard – the baskets, the weigh-in, the receipted purchase – buying stations and buying procedures vary throughout the region. Where a cooperative or some other agency already own a suitable building such as a warehouse, ALCOSA uses the facility that is available. Thus, in Santiago, the buying station is a much larger and more elaborate building erected by the cooperative on land donated by the municipality. Likewise, classification of the product is sometimes carried out by the farmers themselves, as in Chimachoy and Santiago, and sometimes by subcontracted employees, as in Patzicia. To operate these buying stations and to coordinate the plantings and purchases, ALCOSA employed a field staff that in 1980 reached a peak of eighteen persons. It cost ALCOSA approximately three cents per pound of raw material to pay the wages and travel expenses of this field staff, to maintain the buying stations, and to transport the product from the buying stations to the plant. (To help judge the magnitude of these costs, ALCOSA paid farmers five to sixteen cents per pound for these products.)

Production begins with a series of visits by the agronomists and their staff a month or two before the highland dry season comes to an end in late May. In these meetings, agronomists try to recruit farmers to produce broccoli and cauliflower for ALCOSA. Up until 1980, ALCOSA never had enough product to operate at full capacity, so agronomists had to actively recruit more outgrowers and to convince continuing farmers to expand. An important aspect of this recruitment has been ALCOSA's willingness to provide seeds, transplantable seedlings, fertilizer and insecticides as interest free loans against the harvest deliveries. Farmers recruited by ALCOSA are signed to contracts, which specify how many quarter acres of each product the

farmer will transplant each week throughout the rainy season. The growing time necessary from transplant to harvest varies with each crop and each town's microclimate, but ranges from two to four months. ALCOSA tries to organize contracts so that all farmers around a given buying station will be in production at the same time, but all zones will not be in production at once. The goal is to ensure smooth flows of raw material to the processing plant.

ALCOSA contracts include a description of the quality standards, the assurance that ALCOSA will buy the production from contracted acreage that meets these standards, and the price ALCOSA will pay. The details of ALCOSA's mechanisms for penalizing low quality are spelled out. The contracts also specify how ALCOSA will sample that delivered product and discount its contract price by a percentage equal to the substandard product in the samples. All contracts also contain a clause, most important from ALCOSA's point of view, that binds the farmer to deliver to the firm the whole of the harvest from contracted plantings. However, the contract contains no clause binding ALCOSA to purchase as unambiguously as the clause that binds the farmer to sell, though growers usually assumed that it does.

Once a farmer has signed a contract, the agronomist calculates the amount of inputs necessary and offers to sell that amount as a production credit. Only in 1980 had ALCOSA begun to offer so much credit, and even so, not all inputs were offered to every farmer in each zone. When the agronomists do offer credit, however, most farmers choose to accept it. Those who do not take credit from ALCOSA either finance their own production or use the ALCOSA contracts as evidence of an assured market in their application for credit from the large regional coops or from BANDESA, the government's agricultural development bank.

CHIMACHOY

Fifty miles into the highlands from Guatemala City on an isolated hilltop live the 100 families who make up the village of Chimachoy. Chimachoy is connected to the rest of Guatemala by an upgraded track that runs two miles downhill to a dirt road that descends twelve more miles to the highway at Parramos. Over this bumpy route come trucks, rural buses, and technicians' jeeps. No other village around Chimachoy has such an access route and much of the town's growth must be attributed to this advantage.

Chimachoy is different from its neighbouring villages in other ways. Among the most important are its higher altitude (7,600 to 8,000 feet) which keeps its fields cloud-covered and cultivable throughout the dry season; its loose, sandy, volcanic soil; and its steep, erosion-prone slopes. Because of its topography and unique microclimate, the farmers of Chimachoy have evolved a highly specialized set of farming practices, unlike those of any other in the area.

Chimachoy farmers specialize in producing vegetables and produce little corn or beans. They concentrate on dry season production, to harvest as much as possible during the high priced months. This specialized vegetable-producing culture is what originally attracted ALCOSA to Chimachoy but, as we shall see, it also presented difficulties.

The 790 people who lived in Chimachoy in 1980 were almost entirely Indians of the Cakchiquel group. They earn their living from independent farming almost exclusively, supplemented by the sale of woven goods. Chimachoy is unusually homogenous in this regard, unless the contemporary literature on the subject is misleading or now out of date. Families farm their own plots of land independently and most of this land is their own property, although many plots are rented. That is to say, Chimachoy has no 'landless' agricultural workers.

ALCOSA'S OPERATIONS IN CHIMACHOY

ALCOSA arrived in Chimachoy in 1977. At that time ALCOSA's one agronomist would arrive in the village twice a week to spend most of the day with the thirty or so farmers then under contract. He would discuss the progress of their plantings while weighing and accepting all of their products. He would bring with him the cash to pay for the cauliflower purchased on his last visit, and happily bought everything not infested with worms at the high fixed price of 6.5 cents per pound.

By 1980, ALCOSA still bought cauliflower in Chimachoy twice a week during the harvest season, but little else remained the same. New ALCOSA field personnel used higher quality standards and tighter purchasing procedures to cope with the hundreds of farmers from Chimachoy and elsewhere who now brought their cauliflower to the new and expanded buying station. From the farmers' point of

view, everything about their dealings with ALCOSA had deteriorated. Although the price for first quality cauliflower had risen steadily, they thought the increase had been insufficient to offset the tighter quality standards and higher prices for inputs. Farmers complained that ALCOSA's massive purchases of native cauliflower seed from their own traditional suppliers had driven these prices up 500%. Nor did they like the new payment procedures involving biweekly checks, often received late, instead of cash on delivery.

More serious were the suspensions of purchases during the 1980 harvest. In that year, a combination of good weather and ALCOSA's underestimations of yields from new broccoli outgrowers led to oversupply that exceeded plant capacity. The firm cut off cauliflower purchases, stating that the contract did not explicitly require it to accept all contracted produce. Chimachoy was one of the villages hit hardest by the suspension. It was one of the villages with the highest proportion of its growers already harvesting, and among the last villages allowed to resume sales. It was also the only village whose buying station was shut down again later in the year, ostensibly because there were no contracted plantings that should have been in harvest then. (Many farmers had written contracts that said otherwise.) About two-thirds of the growers suffered substantial losses.

The most bitter resentment against ALCOSA in Chimachoy, however, is based on farmers' perceptions of their mistreatment at the hands of the field employees who have worked in the village in recent years. Farmers have been the victims of two separate schemes to defraud them. One involved skimming of a small percentage from farmers on every delivery, carried out by two local men hired to run the buying station. The second, discovered by ALCOSA management in 1980, involved kickbacks between the company's chief agronomist and merchants who supplied the inputs that ALCOSA distributed to farmers. The chief agronomist's responsibilities included recommending appropriate types and levels of fertilizer and insecticide, then supplying farmers with enough inputs to follow his recommendations. He used this position to recommend excessive inputs and took a percentage of the price. Relationships between the Ladino field staff and Indian farmers have in general deteriorated, with mistrust and poor communication increasing.

Agricultural Impacts

In 1980 the most obvious impact of ALCOSA on agricultural

practices in Chimachoy was the almost complete transformation of the village from a diversified vegetable producer to a cauliflower specialist. Even with the greatly reduced planting due to ALCOSA's capacity problems in 1980, the farmers sampled planted far more cauliflower than corn and more than ten times as much cauliflower as the nearest competing non-ALCOSA vegetable, squash. With continued plantings of this much cauliflower, agronomists worried about the dangers of monocultivation and increased populations of more resistant diseases and insects. There was also the economic danger of dependency on one crop and one purchaser. Warnings from a local NGO about this dependency went more or less unheeded, because no farmers felt able to switch from ALCOSA cauliflower to less convenient and less certain markets.

When ALCOSA suspended its purchases in Chimachoy, the lesson was effectively, if painfully, learned. Monocultivation would never again be so dangerous. When ALCOSA cut back on its purchases, farmers began working with a regional cooperative in Chimaltenango to arrange weekly transport from the village to the new CEMOMERCA vegetable marketing project in Patzicia. Other groups of farmers began to test previously unfamiliar crops such as wheat, soybeans, and locally exotic vegetables.

The farmers' responses to ALCOSA's behaviour during the oversupply crisis indicate some of the ways in which their views on agriculture changed as a result of their years with ALCOSA. No one had any interest in returning to the tiny scale of vegetable production for the local market. All were searching for some alternative to ALCOSA that would allow them to continue growing and selling large quantities of high priced vegetables. Their abilities to carry out commercial vegetable production increased along with their desire to do so. Previous contacts that Chimachoy farmers had made in the Guatemala City terminal market have been greatly expanded. Community leaders used these contacts and various agricultural promotion programmes (World Neighbours, Uleu Foundation), cooperatives, government agencies and NGOs to further increase their sales outlets.

Also increased in sophistication was their knowledge of a variety of types and brands of commercial fertilizers, insecticides and other chemicals. This was a large advance over their almost ritualistic dependence on a few familiar products in 1977. Although they unanimously denied that they had ever received any agronomic help from ALCOSA, this must be understood as a reflection of their

feelings toward the ALCOSA field employees, rather than an accurate appraisal of what they had actually learned from their ALCOSA experience.

Economic Impacts

The most impressive change since the establishment of ALCOSA was simple economic growth. The town had many new houses, a new church, a new health post, two new stores and a new tortilla mill. There has also been a decided movement in residential patterns, from generally 'informal' houses, built of cane and straw and scattered among the fields, to 'formal' houses, built of wood or block with metal roofs and lined up along the road through town. With corn-stalk fences along the roadway and barbed wire or metal gates, Chimachoy took on the appearance of a small Guatemalan town instead of a typical village of scattered houses.

Since the town had no economic base besides agriculture, and since almost every farmer in town had become an ALCOSA outgrower, this spurt of growth must be attributed to ALCOSA, the town's only significant source of income. In their survey interviews, both men and women of every economic status denied receiving any significant increase in income since ALCOSA came to town. Such responses could not be taken seriously in the face of the visible evidence of accumulating wealth, the newly purchased land and the new or improved stores and houses.

The increases in income, though shared by all farm households, were distributed unevenly. Poorer households had been able to make only quantitative improvements in their standard of living, because even with the increased income they had no real disposable income beyond that needed to meet basic human needs. In the lowest economic stratum, improved income permitted children to be better clothed, women to wear shoes, houses to be improved with occasional purchases of wood for walls or corrugated metal for the roof. Such homes still contain little or no furnishings; cooking and eating utensils are still confined to a few pieces of pottery or enamelware.

The upper stratum of farmers in the village had sufficient disposable income as a result of ALCOSA to continue and expand the accumulation of family resources. Their most frequent new major purchases included concrete-block houses and additional land. Minor purchases included plastic tableware, food preparation utensils, simple wooden furniture, bedding to replace straw mats, better

clothing for children, a third or fourth set of traditional clothing for women, an additional jacket and pants for men, and perhaps a second radio for women's use at home while the original radio went with the men to the fields.

Farmers at all economic levels made purchases of additional farm equipment. The largest such investments were pack horses: almost half the households had one. Chemical sprayers were almost as costly and these became standard farm equipment. In Chimachoy the containers used for the local transport of crops were round nets; each of them costs three dollars. Farmers who once got by with only five or six of these now owned fifteen or more.

The value of a traditional complement of farm equipment (hoe, machete, hatchet, sharpening stone, a few nets, ropes and harnesses) used to be less than fifty dollars. This is less than the cost of a sprayer. New investments in farm equipment, therefore, although they average slightly less than $100 per household and seldom exceed $200 even for the largest farmers, represent 100 to 300% increases in the original level of investment.

Consequently, local indebtedness has expanded greatly, with most households now carrying three types of loans concurrently: long-term loans for land purchases (and in the case of a few households, for the construction of stores and houses as well); credits for cultivation of ALCOSA crops; and very small loans from itinerant merchants for the installment purchase of household goods.

None of these types of credit were available to Chimachoy residents until the mid-1970s. The latter two had come into existence as a result of ALCOSA's presence in the town. Most farmers get their farm credit from ALCOSA itself, but some of the larger farmers had obtained loans elsewhere, from a government agency (BANDESA) or from cooperatives. Thanks to ALCOSA, the introduction of farm credits has been both rapid and thorough. In 1977, no farmers used production credits to purchase their inputs; in 1980, all farmers did. The weekly visits of credit-offering itinerant merchants are also new, resulting from the increased spending power of Chimachoy households.

Household Impacts

During the cauliflower season, most women in Chimachoy spend two or three days a week planting, picking, and peeling cauliflower. Prior to ALCOSA's arrival, the women of Chimachoy worked in the fields

very seldom, normally only a few times a year when there were large areas to be planted. (Planting was the one agricultural task that traditionally involved women.) This was a significant transformation of women's role within the community, because it broke down the normally rigid segregation of men's and women's activities.

The one major women's task that disappeared almost completely was the marketing trip to the terminal market in Guatemala City. In the past, though men often carried their product to the terminal market, especially when there were new contacts to be made or inputs to be purchased, routine sales trips were often made by women. Frequently, they were the ones who accompanied their produce on the buses into town and actually made the sales to the merchants in the market. Both men and women in their interviews stressed the unpleasantness of those trips to the big city market and their fear of the growing crime in the terminal.

The products that they sold in Guatemala were the household's main cash crops, the ones cultivated by the men, and the principal source of household income. The women also carried out smaller farm activities to raise smaller amounts of income which they usually used for day-to-day food purchases. Only the men's and the cash crop farming and the women's transportation of these crops to Guatemala City has been supplanted by ALCOSA. Women's smaller-scale, income-producing work continues as before: raising chickens and collecting eggs, milking the cow, collecting herbs and flowers, etc. The result of this work is usually a basket full of produce, which women sell directly to consumers in Chimaltenango or Antigua.

Thus, women continue to sell their products in the local markets, but they are no longer the marketers of the men's products. The exact effect of ALCOSA on women's influence within the household and the community is therefore difficult to determine. On the one hand, they are fully involved with ALCOSA production, spend their days with the men, and have earned a place in the community as central actors in the main income-producing activity. Some participated in the village level 'public policy' discussions about ALCOSA, and this kind of participation in these important community affairs was not common in the past. On the other hand, they sometimes used to collect the household's income from cash crop sales. Now it was the men whom ALCOSA paid.

With greater household income from independent farming, the role of men and children in Chimachoy's economic life changed also. Both groups spent much less time working as day labourers on the

farms of others and most school-age children were freed from farm employment to attend school.

Finally, the village's involvement with agribusiness resulted in significant changes in attitudes and expectations. Farmers of Chimachoy had long since entered a culture of 'rising expectations'. The eternal cycle of agricultural subsistence had long since been broken. But until the coming of ALCOSA, rising expectations mostly meant frustration. With an expanded market for more profitable crops, farmers could better themselves economically without abandoning their land or farming skills. ALCOSA created the possibility of combining the always preferred lifestyle, independent farming, with economic progress and a better life for their children. Associated with new expectations were changed aspirations for family life. Schooling, once distrusted and passively resisted, has become a valued asset. Both men and women, in informal interviews, showed interest in family planning, expressing the view that too large a family prevented the parents from providing their children with enough of a base for continued economic advancement. Such attitudes indicate the extent to which these villagers had left behind world views that traditionally accepted a cyclical (rather than progressive) existence, based on subsistence living and the eternally unchanging cycles of the agricultural seasons.

GROWER ORGANIZATION

Contract farming helped create a growing gap between the richer local farmers and their poorer neighbours in Chimachoy. This gap was readily discernible to the people of Chimachoy, who described it as a source of division within the community. For some time, the local village leadership and the staff of the Uleu Foundation tried to organize groups of farming men and women for self-help projects and there were even more widespread local efforts to try to organize a cooperative. A key factor that impeded those efforts, according to interviews with village leaders, was the passive lack of cooperation (but not active disagreement) of the influential older men who head some of the wealthier families. Satisfied with their own progress, so other villagers said, they were uninterested in collective efforts to speed the progress of others. In interviews, the larger farmers stated that collective efforts should be resorted to only when individual self-reliance is insufficient to produce economic advancement. The

dynamics are more subtle than this short discussion suggests because they reflect more than a simple rich-versus-poor division. For one thing, none of these 'wealthier' families are anything but poor in terms of the larger Guatemalan economy.

Perhaps it would be fair to describe the dynamics within the community this way: although the 'wealth' of the larger farmers was incipient at best, the split within the community was not. In discussions of 'what to do' about ALCOSA's slow payments and temporary suspensions of cauliflower purchases, larger farmers invariably proposed conciliation and negotiation, taking the view that the village's long term interests required ALCOSA's continued presence. Poorer farmers, on the other hand, urged tactics of confrontation, such as collective refusal to pay debts. In these discussions, poorer farmers repeatedly made the point that the larger farmers could afford to be conciliatory since they had only suffered a temporary loss of income, while the situation in their own families was more desperate. In the end, the farmers of Chimachoy never were able to decide on an effective course of collective action.

A year later after the field research, guerilla activity spread into the hills near Chimachoy. The army came to the village and rounded up all able bodied men 'for work on the roads.' They were never seen again. ALCOSA stopped working in the town in 1981 'because the farmers disappeared'. By 1985, the village resembled a refugee camp more than the prosperous town of five years before. International agencies have begun disaster relief work among the survivors.

PATZICIA

The second buying station for ALCOSA was established in the town of Patzicia, which differs from Chimachoy in a number of respects. It is located on the main highway that connects Guatemala City, Mexico, and El Salvador, giving farmers much better access to markets than those in Chimachoy. Ecological conditions are less extreme and do not require the specialization and special skills in vegetable growing that made Chimachoy distinctive. Finally, Patzicia is a mixed Ladino/Indian community with a history of bitter conflict.

Patzicia is well known throughout Guatemala as the site of the last major Indian revolt, in 1944, when the Cakchiquel native population of the town rose up against the Ladino people. More than 1,000 people were killed on both sides and the town has remained bitterly

divided. Since that event, the people of Patzicia have had a tendency to stay within their family units and 'mind their own business'. Fearful or suspicious of collective organizations and political activism, and distrustful of each other as well as outsiders, both Indian and Ladino residents of Patzicia have earned a reputation among others in the area as 'hard' people.

Because of all the other marketing opportunities available to Patzicia farmers, only a small minority of the vegetable growers in the area contract with ALCOSA. Even in the village of El Sitan, the area immediately surrounding ALCOSA's buying station, the percentage of farmers who sell to ALCOSA probably did not exceed 20%. Approximately 180 farmers signed cauliflower or broccoli contracts with ALCOSA in 1980. These growers, less than 10% of Patzicia's farming households, were a thinly scattered group drawn from a wide radius around the buying station. Twenty of these outgrowers, in fact, did not live in Patzicia but in the three surrounding towns of Tecpan, Zaragosa and Santa Cruz Balanya.

FIRM–GROWER INTERACTION

Most aspects of ALCOSA's operations in the town were similar to those in Chimachoy, the main difference being that grading was done by employees of an ALCOSA subcontractor rather than by the farmers themselves. Patzicia was unique among ALCOSA's buying zones in the lack of collective identity among its farmers. Partly as a result of the hard individualism of its local culture, and partly because of the higher turnover rate among its farmers (due as much to the greater availability of alternative markets as to higher levels of dissatisfaction), most of the men who came to sell at the buying station did not know each other. Divided ethnically into two groups and geographically into more than a dozen, most of the men spent their days at the buying station talking quietly with the few other farmers with whom they were acquainted, men from the same village or more often the same family. As managers on the ALCOSA field staff were aware, it was this lack of mutual acquaintance in Patzicia that caused the company many problems of communication and organization. For instance, the agronomists believed that the reason farmers' self-classification did not work in Patzicia was because it was impossible to establish any of the collective identity and peer group pressure that made the system workable at the other stations.

Agricultural Impacts

Most obviously, there was a huge increase in the amount of cauliflower grown in Patzicia. Additionally, about 20% of the farmers contracted by ALCOSA began to grow broccoli in 1980. The principal crop displaced was corn, which in 1980 accounted for about one-third of all planted acreage, down about 10% since ALCOSA began. Outgrowers planted less cabbage, potatoes and wheat than previously, although it is unlikely that total plantings of these crops in the town decreased much because the 80% of local farmers who did not contract with ALCOSA increased their acreages in these crops.

In 1977, profit levels available to ALCOSA cauliflower growers were much higher than the profit potential of any other crops. By 1980 this was no longer the case. The prices for other vegetable crops rose faster than ALCOSA's price for cauliflower, and rising quality standards led to a decline in yields of first quality product. In 1980, if a Patzicia farmer met certain conditions, it was more profitable to grow other crops for other markets than to plant cauliflower for ALCOSA. The conditions necessary to participate in other more profitable markets were: market contacts, either in the Guatemala City terminal or among Salvadoran buyers; sufficient field size to produce a truckfull of produce in a single cutting (in potatoes, cabbage, and squash this was still quite small, much less than an acre); sufficient assets to sustain self-financed investments and the inherently greater risks of open market prices.

As a result, proportionately fewer farmers participated than in 1977. The economic and agricultural profile of those who participated was different from before, and the impact on the town's total agriculture was relatively small. Only about 20% of farmers whose fields lay within walking distance of ALCOSA's buying station signed contracts. Farther away the proportion was much smaller. Almost all the ALCOSA outgrowers fall into two distinct types. About 70% of them including most of the Cakchiquels and a few of the Ladinos, are from the smallest and poorest stratum of farmers in the area. Another 20% are larger and more sophisticated vegetable farmers with diversified vegetable plantings that always include some cauliflower for ALCOSA to counterbalance price uncertainty for their other vegetable crops. A slight majority of this last group are Ladinos. ALCOSA, therefore, has contracts with many of the smallest and a few of the largest farmers, but with hardly any of the 'middle' of Patzicia farmers typical of agriculture in the area. (This

discussion of small, medium, and large farmers, it should be noted, is useful for local comparisons only; by Guatemalan or international standards, none of these farmers are anything but 'small', with the largest of them farming less than ten acres and earning little more than urban minimum wages.)

Because ALCOSA outgrowers were such a small minority among local farmers, the total agricultural impact of ALCOSA in Patzicia was correspondingly limited. The company's impact on farmers who did participate, however, was just as large as in Chimachoy, and similar in nature. These impacts included a more sophisticated use of a much larger variety of fertilizers and insecticides, a dramatic increase in the level of farm investment, and dependence on farm credits from ALCOSA.

Economic Impacts

Potential earnings for ALCOSA outgrowers were not particularly high. As mentioned before, vegetable farmers in Patzicia could earn more growing other crops for other markets. If farmers were to devote their acreage to corn, a year-long crop in this area that requires much less labour, they could earn almost as much seeking paid farm employment, either locally (at $2 per day) or by migrating to the coffee harvest (at $3.50 per day). In contrast to Chimachoy, then, the economic impact of ALCOSA on its outgrowers was not that it raised incomes but that it permitted even the smallest farmers to pursue their preferred occupation, independent farming, without sacrificing income.

The transformation from self-financing to credit, as the source of the ever-increasing working capital required by small farmers, was another significant economic impact. The dependence of small farmers on production credits has often led to disaster, as a year or two of bad crops could result in the transfer of small farmers' land to their creditors. All of the production credit in Patzicia, however, came from ALCOSA itself. As a creditor, ALCOSA has a much different relationship to its debtors than do traditional money lenders. First, since the company is the source of the income as well as the credit, its debts are likely to be paid off if there is any production at all. ALCOSA does pay itself first, even if that means months of no income farming for the indebted outgrower. This can cause severe hardships, as indeed it did in 1980, but it cannot be compared to the permanent economic damage and dislocation suffered by indebted farmers in the past, who often lost their lands to local

moneylenders. It is not credible that ALCOSA would be interested in seizing small farmers' lands to collect debts, or that it could successfully carry out such a politically dangerous move, even if it wished to.

Another significant economic impact is the result of ALCOSA providing enough income to smallholders so that they need not seek farm work elsewhere. This impact is discussed later in terms of its reinforcement of traditional values, attitudes, and life styles, but there is a narrower economic aspect to this issue as well. Wage rates for day labour in Patzicia, as in Chimachoy, became responsive to ALCOSA's rhythm of activity. Since there were no longer any significant number of farm labourers in Patzicia, all local farm labour was performed by men from smallholder households that had surplus labour-time available after tending their own fields. Since so many of the smallest farmers in Patzicia were ALCOSA outgrowers, their involvement in these labour-intensive crops sharply reduced the amount of wage labour available to larger farmers, especially in those months when cauliflower is transplanted or harvested. Wage rates rose by 60 to 100% at peak cauliflower periods. Expansion by the largest cauliflower growers was therefore held in check by this shortage of peak season wage labour. New arrangements, even more advantageous to the labourer than the higher daily wages, appeared. For instance, family work crews who prepare land for planting were now paid by the job, rather than by the day. The system encouraged rapid and intensive labour and very high earnings for efficient crews. The earnings possible from these jobs were so much higher than subsistence that some poorer families came to depend on these earnings as their source of working capital for the new season.

Community Impacts

Farming for ALCOSA remained the most profitable market available to the smallest farmers, who otherwise would have to pay to transport small quantities to distant buyers. As a result of its changed position in the produce market, ALCOSA served not as an agent of concentration, but as one that permitted the smallest farmers to participate in the newly expanded commercial markets. Through sales to ALCOSA, the smallest farmers were able to maintain their independence in the face of rising costs of agricultural inputs and land rents. ALCOSA prevented the concentration that might have occurred otherwise with the growth of larger-scale commercial

vegetable farming for the Guatemala City and Salvadoran markets. A second community impact that initially appeared likely was the development of a commercial centre in the village of El Sitan, the site of the buying station. This did not occur, in part because ALCOSA began paying farmers with cheques instead of cash, thus completely transforming the commercial potential of pay day at the buying station. Turning the cheque into spendable cash now required a trip into Chimaltenango, where merchants were already established.

Household Impacts

ALCOSA's effects on gender roles in Patzicia was the only area of household impact that differed from the other two villages studied. ALCOSA had contact with two distinct groups of women: a larger group who were members of farm households, and a smaller group who found employment as cauliflower sorters in the buying station. The employment impact is the simpler of the two: these dozen jobs were the first paid wage labour available to women in Patzicia, excepting domestic service and the occasional government job open to a few local women with unusually high levels of education. This impact was limited, however, since it involved no more than sixty days of seasonal employment per year.

Patzicia was the only one of the three sites where ALCOSA's introduction of large scale cauliflower farming did not lead at once to farm households' shifting their women's labour into agricultural work. The cause of this phenomenon was not clear. Some informants suggested that Patzicia women did not work in the fields because they continued to weave a great deal, something that women in Santiago had given up. But Patzicia women in fact weave very little, purchasing their clothing from the women of nearby Patzun; at the same time the women of Chimachoy, who do work in the fields, all continue to weave. Male Cakchiquel informants in Patzicia suggested that their women stayed out of the fields because they imitate the behavior of higher-status Ladino women. But Ladino women were more, rather than less, likely to work in agriculture. Similarly, the greater urbanization of Patzicia relative to Chimachoy was offered as an explanation, but Santiago was more urbanized than either of the others, and its women worked in the fields. Finally, agronomists suggested that Patzicia women were less familiar with the traditional concept of a women's herb and vegetable garden near the house. But, although the practice was culturally familiar in all three towns, none of the

women practiced it, but relied instead on picking herbs and greens that grew naturally without any need of cultivation.

Remembering that in the Cakchiquel culture women traditionally only work in the fields to plant the crop, it was the women of Chimachoy and Santiago who changed their traditional behavior, not those of Patzicia. This leaves only the hypothesis that this was part of Patzicia's general cultural conservatism, a long-continuing reaction to the events of 1944, which for years withstood very strong economic pressures of labour scarcity and high wages for farm labour. By 1985, however, ALCOSA's smaller Patzicia outgrower households had given in to the labour market opportunities offered by peak season wage rates. Women helped their husbands and fathers with cauliflower production so that sons could be freed to earn high daily wages working for other larger farmers. Though they took much longer to come around to it, in the end Patzicia women's farm work was not much different from the pattern begun seven years before in Chimachoy.

SANTIAGO SACATAPEQUEZ

Santiago Sacatapequez is a very different place than Chimachoy or Patzicia. Located only fourteen miles west of the capital on the Pan American highway, the town is on the edge of a suburban development. Although the population of the town is made up almost entirely of indigenous farmers, the encroaching land developments and the relatively easy access to urban employment have encouraged many to commute to urban jobs.

Another significant difference is the presence of a massive project of earthquake reconstruction and rural development. This Swiss aid project has rebuilt the entire town's housing stock to very high standards and has installed a team of advisers, called the Swiss Group, that has undertaken a series of agricultural and social development efforts.

The third big difference between Santiago and the other sites is the intensity of its agriculture. In other villages, the average small farmer had three or four acres available for cultivation; in Santiago, the average is less than one acre. A 1954 land reform parcelled out small plots that were divided up even further when handed down to the current generation. To survive on these tiny plots, Santiago farmers long ago became specialists in producing vegetables for the

nearby Guatemala City market. Their expertise exceeds even that of Chimachoy's vegetable specialists. Fortunately for the very small farmers of Santiago, much of their land is more fertile than Patzicia and flatter than the fields of Chimachoy. Most of the villagers' parcels are very well suited to the kind of very intensive horticulture that they practise.

FIRM–GROWER INTERACTION

The way ALCOSA operated in Santiago was fundamentally different from its mode of operation in Patzicia and Chimachoy. For one thing, the company purposely chose to work through intermediaries in Santiago, at first the Swiss Group and then the cooperative. This reduced the company's expenses considerably. It used the cooperative's warehouse for its buying station, the cooperative's truck for transport to the plant, and the cooperative's personnel to coordinate the programme. It was the cooperative that assigned and kept track of the plantings, kept records of who had delivered how much, and dispersed cash payments to the farmers.

Most striking was the lack of involvement of the ALCOSA field staff. The company's agronomists and their agricultural recommendations played no part in Santiago agriculture whatsoever. Local cultivation practices were based on research and recommendations developed by the Swiss Group's agronomists working in cooperation with the government's agricultural research institute (ICTA). Likewise, the person who weighed the delivered product and checked its classification was the man elected treasurer of the coop. His salary was paid partly by the cooperative and partly by the company. Because of these arrangements, the relationship between the weigher–classifier and the farmers was impressively different, free of the mutual hostility and tensions that existed elsewhere. Yet company records showed that the product was at least as well classified in Santiago as in the other sites. The absence of conflict had not disadvantaged the company by lowering the standards of classification.

Agricultural Impact

The average farmer in Santiago had lower costs of production than counterparts in the other two towns, yields that were more than twice as high, proportions of first-quality product that were 15% higher

than Patzicia and 20% higher than Chimachoy, and net income per unit of land that was many times higher than elsewhere. These farmers had somewhat better land to work with, but the main cause of these superior results was a difference of farming technique. The difference in agricultural technique, in turn, was probably the result of three factors: an original superior knowledge of vegetable production that carried over somewhat into ALCOSA crops; more labour-intensive care on the much smaller plantings of each household; and the very different agricultural recommendations from the agronomists working in Santiago.

As a result of their research, these agronomists recommended less frequent applications of smaller quantities of cheaper insecticide than did ALCOSA. ICTA agronomists also developed systems that permit the interplanting of corn and cauliflower so that the same tiny piece of land can provide its usual quantity of corn while also delivering cauliflower yields higher than farmers in Patzicia were able to achieve with cauliflower alone. They were also able to give farmers more individual attention, since they had a much higher ratio of agronomists to farmers (1 to 160 *versus* 1 to 425). Whether higher yields were a cause or result of the programme's success was hard to say. It would be better to think of it as a golden circle of success: higher yields lead to farmer satisfaction and cooperation which makes them more willing to follow agronomist's recommendations, which leads to higher yields and incomes, and so on.

GROWER ORGANIZATION

The cooperative benefited the company by lowering company expenses, in ways listed above. But these were small savings compared with the advantages the company reaped from the improved organization, coordination, communication, and cooperation of growers that the cooperative makes possible. The cooperative provided the company with local leadership that was both formally defined and fully legitimate. When the company had a problem, the cooperative leaders and their Swiss advisers were available to work out some sort of solution and implement it. The company played no role in attempting to disseminate new information or discipline growers to new procedures. To achieve a similar result in Patzicia or Chimachoy was impossible, since it required that an ALCOSA field

employee convinced each outgrower of the necessity and legitimacy of a new procedure.

If the benefits to the company were impressive, the benefits to the individual farmers were even more so. First and most important, there was the potential clout of collective bargaining. The cooperative's clout was enhanced by the vegetable-growing skills of its members and by the considerable independent influence of its Swiss advisers, but these were supplementary to the basic source of its strength: the size of its membership and the discipline of its organization.

The membership also benefited because their cooperative was smaller than ALCOSA and more efficient. The cooperative store from which they got their inputs on credit was conveniently located, and when it was time to pay, the cooperative was more flexible and more reliable in the way it made its deductions

The main advantage of the cooperative to its members, of course, was its primary mission. The cooperative existed to serve the needs of its members, not the requirements of a Guatemalan corporation or its parent company in the United States. Concretely, this meant that the cooperative attempted to maximize the sales of its members. At the time, that goal was best served through cooperation with ALCOSA, but the cooperative was always on the lookout for other more advantageous markets. The cooperative was already in 1980 dealing with one other American company, an exporter of fresh snow peas, and was gearing up to produce dehydrated spices and vegetables for sale to CINDAL, Nestle's local subsidiary for dried soup mixes. By 1986, the cooperative had developed regular marketing relationships with almost a dozen firms exporting to international markets.

In practical terms, since the farmers delivered all their products to the cooperative's warehouse and received all their pay from the same place, they benefited from the coop's diversification of their markets without having to involve themselves in all the complexities of separate contracts, delivery arrangements and payment procedures. Similarly, the agronomists advising the coop provided a single source of recommendations for planning, planting and cultivating the various crops. In developing their recommendations, they seek to maximize the income of members. Agronomists with this priority are more likely to maximize farmer income than company employees. This is true even when the company agronomists are pursuing the legitimate priority of maximizing product quality instead of the illegitimate priority of maximizing kickbacks.

What were the benefits that ALCOSA brought to the coop? ALCOSA's involvement in Santiago began a year before the formal establishment of the coop, and leaders of the coop went out of their way to credit ALCOSA with partial responsibility for the coop's growth and success. Initially, ALCOSA was the coop's sole economic base. The coop financed its entire operation through a 3% commission on its members' sales. This stable economic base in turn permitted it to operate with paid staff from the beginning.

An even more important factor was the company's acceptance of an early decision by coop organizers to restrict local farmers' access to ALCOSA. To contract with ALCOSA for delivery at the coop's warehouse, a farmer was required to join the cooperative. According to coop leaders, it was neither the cooperative ideal nor their own energetic efforts that fueled the explosive early growth of the coop. They gave the credit to this simple requirement. The coop grew to 400 members from all the towns and villages in the Santiago municipality because all those farmers wanted to sell to ALCOSA, not necessarily because they were enthused with cooperativism.

Household Impacts

Unlike Chimachoy and Patzicia, women in Santiago were almost equal partners with their husbands in cauliflower production. In Chimachoy, women worked alongside their husbands and generally assisted in the fields; in Santiago, women worked in agriculture more independently. In 1980, almost half of the farm households were represented at the buying station by their women, and many women collected the payments from the cooperative. One possible explanation for this was the similarity between the intensity and tiny scale of farm production in Santiago and women's traditional small plots for vegetables and herbs. For whatever reason, woman were in 1980 essentially equal participants in the principal income-producing work of each household.

Such a degree of gender equality was not to remain unchallenged. In 1983, the coop made a formal decision that its members were men, not households, and that henceforth produce would be received from members and payment would be made only to members. Women were declared too illiterate to understand coop accounting – though they were the ones used to market accounts and transactions, not the men – and prohibited from signing-off on produce delivery records or payment receipts. Women's farm status reverted to something like

that in Chimachoy, as hardworking 'helpers' in their husbands' farm work. The coop has begun nutrition and sewing classes for them. Attendance is sparse.

Impact on Factory Labour

At its peak, ALCOSA directly and indirectly employed almost 800 people, making it at that time the largest employer in the vicinity of the plant. Since its own farms were phased out, however, ALCOSA provided reasonably steady employment for about 200 people in San José Pinula and seasonal employment for an additional 150. Women make up 80% of the permanent employees and all of the seasonal employees. The permanent workforce is drawn from a wide radius around the plant, from the town centre of San José Pinula and from villages up to ten miles away.

A central theme of interviews with ALCOSA employees was that factory work brought women freedom; freedom from the constant fear that accompanies grinding poverty and ever-increasing debt, freedom from oppressive family situations, freedom from the never-ending servile work conditions of the live-in domestic employee, or freedom from the oppressive supervision, deceit, and low pay of the small business employer.

Asked why they came to work at ALCOSA, some described a situation of desperate financial need and growing debt. ALCOSA wages permitted them to pay off debts and maintain a minimally acceptable standard of living. Some came from less desperate economic situations; ALCOSA wages permitted them to 'better themselves', improve their houses, clothe themselves more respectably, and make installment payments on household goods. For others, ALCOSA wages represented freedom not so much from poverty as from intolerable domestic arrangements. Having an independent source of income has enabled them to assume a degree of control over family relationships that would be impossible for young women with no income of their own.

Another area of freedom that ALCOSA employment brought to some of these women was freedom at work, at least compared to previous employment. In small towns like San José Pinula, the only widely available alternative to factories is domestic work. Women who had previously worked as live-in-domestic help contrasted their ALCOSA jobs with the 'slave-like' conditions of their former employment. In the bureaucratized atmosphere of ALCOSA, as in

any other large plant, work tasks and responsibilities were relatively fixed and defined. Women who used to work as maids appreciated the more limited work conditions of factories such as ALCOSA. They liked the idea of the time clock, the clear separation of working time owed to the employer and personal time of their own. From morning to night, domestic helpers have no legitimate personal time when the employer does not expect them to be working. Likewise, some women appreciated the division of labour, the apparent source of the monotony and tedium of assembly line work. Such a clearly defined job description was preferred to the infinitely expandable work tasks of the domestic employee for whom 'women's work is never done'.

A smaller number of women had previously worked in small business settings, stores and restaurants. They preferred ALCOSA's size and bureaucratic impersonality to the close supervision of the small business owner and his tendency to sexually harass his young female employees. They also contrasted ALCOSA's fair and routine handling of wages and benefits with small employers who rarely met the legal minimum wage and often tried to reduce it further through deceit.

To sum up what these women said, the very conditions of large corporate employment which critics have so often indicated as sources of alienation – the timeclock punctuality, the unvaried routine, the impersonality, the narrow division of labour – all of these were perceived by many women as conditions of relative freedom on the job.

CONCLUSIONS

The ALCOSA case has several lessons. Small farmers can produce export quality produce, even with newly introduced crops. In this case, they produced so well that no other source could compete, so well in fact that the company could not always absorb their output. Although farmers would not admit it, the contract farming system was extremely effective at disseminating new knowledge and new inputs to small farmers. Even so, use of an intermediary institution like the coop in Santiago made the system work even better, for both growers and firm. This was especially important in a country where legitimate means of resolving disputes are few and conflicts tend to become political and often violent.

3 Asparagus in Peru: Expanding the Agricultural Frontier

BACKGROUND

In the late 1970s, the third of a series of military governments that since 1968 had promoted socialist agricultural reform in Peru was running out of steam. Export earnings from fish and minerals, principal supports to the Peruvian economy, were down and the government could no longer afford to subsidize the agricultural production cooperatives which were attempting to continue large scale farming on the expropriated estates of their former employers. Harvests had declined and, as a result, years of unpaid loans overhung the farm collectives, demoralizing their members and decreasing the willingness of even governmental credit institutions to continue providing new loans.

In this environment, the government was for the first time receptive to a proposal from the U.S. Agency for International Development (AID) to initiate an agribusiness development fund to encourage private sector initiatives in agricultural credit and marketing. Among the earliest and largest loans under this programme was made in January, 1979 to Agroindustrias del Santa (AGSA) for $750,000.

This firm was a new member of the Bertelo group of companies, based in Lima. It was formed to process and export canned white asparagus. The AID loan was to help finance construction of a new canning plant in the town of Santa, on the north coast of Peru near Chimbote, and to supply working capital to lend to small outgrowers. Such credit was necessary to start asparagus cultivation, since the crop was a permanent installation (ten years in Peru) which does not earn income until the second year, or pay back its start-up until the third.

THE ASPARAGUS GROWERS OF SANTA VALLEY

Historically and ecologically, the Santa Valley is among the most

important of Peru's coastal farming valleys. The Rio Santa drains a large proportion of Peru's highland intermountain plateau, making this valley unique among the northern coastal valleys for its year-round irrigation source.

The valley's broad coastal plain is divided into two distinct types of farming areas: those alongside the river with silt deposits, well-formed soils, and a history of irrigated cultivation stretching back into the pre-Hispanic era; and a series of newer farming zones carved out of the desert by recent irrigation projects. The first of these was finished in the late 1950s and the most recent in the mid-1970s. Soil in these latter areas is only now in the process of formation, as farm cultivation slowly adds organic materials to form a fragile arable cap over the original 'dead sands'.

All of the individual contracted farmers were located in these newer farm areas, as was the cooperative 'Amauta', one of the four agrarian reform collectives that grows asparagus for the company. Farmers with better soils in the more established areas could obtain much higher yields of good asparagus, according to company agronomists; but the company was only able to sign up farmers in the more recently colonized zones, whose poorer quality soils did not permit them to grow more profitable crops.

Family Farmers and Farm Entrepreneurs

Asparagus farmers in the Santa Valley used one of two distinct types of farming operations. A little less than half were true family farmers, relying principally on family labour and hiring workers only when necessary; the other half will be referred to in this chapter as 'farm entrepreneurs', businessmen who actively manage small farms worked with hired labour.

Family farmers live on the land and work it together with all the other members of the family. They have low levels of education, are likely to have spent little time working in non-farm occupations, and aspire to provide a prosperous farm as a legacy for their children. Most were born in the poorest regions of the Sierra and migrated as youths to the coast. Though they prefer to use family labour, asparagus is such a labour intensive crop that all but the largest families have been forced to hire their neighbours as farm labour on a regular basis.

Farm entrepreneurs, a slight majority of the asparagus contractors in the Santa Valley, are often referred to in the development

literature as 'medium-sized farmers.' In this case, however, the size of the farms involved is in the same general range as that of the family farmers. The key difference between these two groups is not the size of their farm operations, but their socioeconomic and educational levels. Farm entrepreneurs include all farmers with more than a primary education; they have spent more time in non-farm employment (although most were originally raised in farming families); they are more likely to have been born on the coast rather than in the highlands; and they aspire to provide their children with technical or university education to provide them with an occupational status higher than their own. Because of their backgrounds in coastal agriculture, their more urbanized life styles, and their aspirations for their children, farm entrepreneurs view their farming role as that of a manager or overseer. Most of this group maintain residences in Chimbote, but the farm entrepreneur himself spends his days on the farm, joining his family in its urban residence either nightly or on weekends.

Both types of farmers are migrants to the region, most coming from the highlands. The ecologies of the two regions are so different that much farm experience does not transfer and many basic skills must be relearned. However, not all the farmers came from the highlands. Almost half were born in various coastal valleys from Trujillo in the north to Arequipa in the south. The modal life history of this group is that they were born and raised among farm workers in large coastal haciendas, then spent a period of time in a non-farm occupations before acquiring their present parcel. Although experienced from birth in coastal farming, whatever advantage in farm knowledge they might possess is outweighed by their lack of experience as independent farm operators. Even the most naive highland farmer takes an overview of farming that a wage-earning farm labourer does not, and thinks in terms of an annual cycle of investment and harvest, of permissible present consumption and mandatory savings.

The two types of farmers, though they differ in many ways, tend to have certain personal characteristics in common: aggressiveness, tenacity, and determination. The Santa Valley asparagus growers are all people who have endured ten or fifteen years of hardship and deprivation in order to obtain their desert farm sites. In the process, they have had to battle government bureaucracies to regularize their farm titles and to get and keep their all-important water rights. At the same time they have struggled with no capital of their own and

without the agrarian reform agency's expected assistance to 'make their farms', to turn alkaline sandhills into graded, irrigable, arable land. The original settlers in these colonization districts had to arrive well in advance of the water and defend their claims against later arrivals. At the same time, they had to legitimize their claims to the agrarian reform agency, hang on through years of delays until the water arrived, survive without technical and financial assistance, and endure a devastating earthquake. Most of the original settlers did not survive these tests and abandoned their properties in despair. Their places were taken by later waves of hopeful migrants, many of whom had to seek off-farm jobs as vendors or labourers in order to survive. Their skills as independent farmers had not been finely honed, but their years of struggle with the bureaucracies had given them an organizational and political sophistication that more traditional independent farmers seldom acquire.

The Asparagus Outgrower Programme

The first activity of the asparagus venture, preceding even plant construction, was the establishment of a separate subsidiary, Asesoramientos Agroindustriales (ASAGRO), to enrol growers and to introduce and promote the planting of asparagus in the Santa Valley. Despite twenty years of agronomic feasibility studies indicating the Valley's suitability for asparagus, ASAGRO had difficulty in getting farmers to agree to grow the crop. The farmers' reluctance is understandable: the crop is unfamiliar and the plant's characteristics (ten-year life cycle, three-year payback period) make it riskier than the more familiar crops. As a result, even the company's promotional offer of 100% financing induced only a scattering of farmers to sign contracts. Since 1978, the company has been able to sign contracts in the valley with a total of 106 individual farmers and one production cooperative, for a total of about 1,250 acres of asparagus. These producers are thinly scattered in the more recently developed zones of a valley that contains thousands of farmers and tens of thousands of irrigated hectares.

In its constant attempts to solve its supply problems, ASAGRO changed direction to target a new group of potential producers. It added a programme of relatively large-scale contracts with collectively-farmed cooperatives in the Santa and Casma Valleys, and turned to more experienced asparagus producers in the Viru Valley to the north, who needed much less financing and technical assistance. This

chapter, while concentrating on the Santa valley growers, will make comparisons where appropriate with the Viru and collective-farm operations.

FIRM–GROWER INTERACTION

To promote the planting of asparagus, the company financed all outgrowers' inputs, equipment rental and labour costs to prepare the land, plant the asparagus and tend the fields. Even attributable family or cooperative labour was paid at the same rate as hired labour with company advances against anticipated production. The interest rate that ASAGRO charged for these credits varied with those set by the government regulatory agency. The company is not legally required to follow these rates but finds that the public relations benefits outweigh the implied losses. When the project began, the nominal interest rates were in the 20–25% range; by 1981 the rate had climbed to 50%. This doubling of the interest rate has greatly affected the nominal size of farmers' loans and the loans' psychological burden on the growers, although the interest rates are in fact lower than the rate of Peruvian inflation.

Although it has largely abandoned the practice, ASAGRO originally provided not only financing but also the actual work crews. Under the direction of its own manager–agronomists, these crews prepared the land and transplanted asparagus from the company's seed beds. In many cases, the farmers' only initial involvement was to provide the land and agree to pay back the costs plus interest once the asparagus was in production. Once planted, the farmer became responsible for the care and cultivation of the fields, still under the direction of company agronomists, but he was 'paid' for this work every two weeks according to the labour expended.

Financial record keeping during this start-up phase was too loose, with a central office in Lima posting growers' accounts based on the often ambiguous and fragmentary documentation of ASAGRO's local management. Since these accounts were often late and were posted so remotely from the farmers, it was difficult for a grower to find out the status of his debt. Farmers consequently had little idea of the extent of their indebtedness and the bi-weekly labour cheques had the appearance of an earned wage rather than the interest-bearing loans that they actually were.

Farmers recall this early period as a time when the company was

friendly, generous, open-handed and eager to help. Cost-cutting was not a high priority for either the company or the farmers because their asparagus farms were expected to be such a high-yield, high-profit business that the mounting debts would quickly melt away.

The company's processing plant in Santa opened its doors in November 1979 and daily purchases of asparagus began shortly after. In this phase, the company needed a dependable, efficient administration. It was soon apparent that this was lacking. Raw material deliveries were undependable and farm production was consistently far below agronomists' estimates.

After a few months of continued administrative difficulties, the management in Lima brought in an outside consultant. His report criticized agronomic practices, accounting and administrative deficiencies, and gaps between claimed and actual investment levels. For example, the report found that some of the acres claimed were not actually planted, that planted fields contained fewer plants than planned (too few to be economically viable in some cases), and that costs of extensive grading and land preparation were too high to be repaid with the low yields attainable on such poor soils. The emphasis of the report was on the lack of any budgeting or cost monitoring. With such generous loans and rising interest rates, farmers' debts could well become permanent obligations, putting the company in legal violation of the provisions of Peru's land reform statutes that prohibit debt peonage.

Subsequent investigation by the company revealed that approximately 20% of the claimed acreage was never planted, and that loans were made to associates and farm entities that neither signed asparagus contracts nor possessed suitable lands. In addition, many of the genuine outgrowers were found to have fewer plants on less acreage than company records indicated. It is highly probable that farmers with 'phantom' asparagus plantings were paying interest on inflated credit accounts.

As a result of these investigations, the company's outgrower programme has been drastically transformed. By 1981, ASAGRO had become a tightly administered operation conducting business in an efficient and highly bureaucratized fashion. Multiple records were kept of each transaction, a system of checks and balances was applied, all fields were checked regularly, and the processing plant was provided with accurate, honest predictions. This required an expanded and reorganized field staff of twenty agronomists and technicians.

In addition, an expanded administrative staff provided farmers with prompt bi-weekly loan cheques. Every month, reports were prepared for the central office in Lima, financial statements were made available to growers, and employees' wages were paid. As a result, a very large staff administered relatively few acres (approximately 1,750) and a small number of farm units (110). According to the administration, such a large staff was necessary due to unusual characteristics of the programme: (a) farm units were so small and widely dispersed that technicians' travel time is high; (b) the company's policy of quality maximization required a complicated collection and transportation system of thrice-daily pick-ups at every farm; (c) none of the farmers were experienced asparagus growers and many were novices in coastal desert farming; and (d) the project was both agronomically and organizationally a pioneer.

In the field, the daily work schedule was dominated by the need to keep up with the harvest. Asparagus shoots are the tips of new plants sent up by root crowns buried a foot or so underground. White asparagus, the kind that ASAGRO produces, must be harvested the instant the tip emerges from the soil. If left exposed to the sun for as little as three hours, the tip of the asparagus opens up; the shoot turns green, and the product deteriorates rapidly from first quality (white and unopened) to third quality (green with opened tips).

ASAGRO therefore advises its growers to harvest twice a day. This practice, which is followed by most of the new growers who have harvested once a day for years, maximizes product quality. It also increases grower income, since there is a sharp price differential between the three quality levels: first quality at eighteen cents (U.S.) per pound; second quality at thirteen cents; and third quality at ten cents. To harvest the asparagus, harvesters walk up and down the apparently empty furrows, backs bent and heads bowed, searching out the small white tips. When they spot one, they insert an asparagus knife, a piece of metal sharpened on the end like a long thin chisel, and cut the tip 8 or 9 inches below the surface. At the side of the field, another worker classifies the asparagus into the three different quality categories.

Once harvested, the asparagus begins at once to deteriorate. ASAGRO has therefore devised a transport system in which small pick-up trucks, owned and operated by local subcontractors, pass by each harvesting field three times a day, receive the harvest from the farmers and transport it promptly to the company's collection point.

The truck drivers carry portable scales to weigh the product at the

farm site and to issue the delivery receipts to farmers. The drivers are also responsible for a quality check to ensure that the farmers are following the company's classification standards. From farm to factory, the asparagus is transported in specially-designed company-owned plastic crates. Careful inventory of these is maintained at all times; both the farmers and the truckers must sign receipts noting each empty crate they receive and full crate they deliver.

The collection centre is home base for the agronomist in charge of harvesting as well as for two or three farm technicians. Here the asparagus is transferred from the pick-ups to the large truck that makes twice-daily deliveries from the collection centre to the plant. Technicians verify the weight and classification of each crate as it comes off the pick-up truck. If any discrepancies or problems arise, or if a route driver reports that a farmer has something he wants to discuss, either the agronomist or a farm technician can set out for the farm at once.

When not specifically overseeing the day's harvest, one agronomist and some farm technicians are normally busy visiting the fields of farmers who are not then harvesting. Farm visits are made to check on the progress of the crops (to verify and if necessary adjust the expected dates and quantities of the field's harvest, part of the constant updating of overall production forecasts); to evaluate and diagnose any problems resulting from poor cultivation practices or pest infestations; to verify that the necessary farm work has been done, or that tasks for which the farmer has requested a bi-weekly loan are both necessary and timely; or to lend technical assistance to the grower. Only the last type of farm visit requires an actual meeting of field staff and farmer. This is the rarest kind of farm visit, so most of the field staff's work is not visible to the growers, who do not understand the extent or importance of the field staff's duties.

At the same time, other agronomists and farm technicians are involved in experimental work. The company has for some time been involved in a major research effort with industrial tomatoes to check the feasibility of the processing plant's planned expansion into that line. The mealy bug infestation, discussed elsewhere, has also required a large crash research programme. In addition, the company carries out continual asparagus research, principally directed towards lowering the costs of recommended inputs and improving the company's nursery stock. Other farm technicians are assigned permanently as resource persons to the various collectives. Finally, there remains one field employee who works as a 'straw boss', directly

managing the employed labour force on several adjacent farms owned by a family of farm entrepreneurs that has been unable or unwilling to work without direct company involvement.

Passing their days like this, the field staff put in long hard hours and feel overworked, despite such low ratios of seventeen farms per agronomist (seven per field employee) and 260 acres per agronomist (115 per field employee). All of ASAGRO's field employees work longer and harder for less pay than their equivalently qualified counterparts in the public sector. Yet the need for such a large staff, constantly called into question by the farmers in their arguments for higher prices, remains open to doubt. Although stretched thin under present circumstances, some of these circumstances are the result of managerial decisions which could in the future be modified. The field staff is as large as it is because of: the widely dispersed farm units; the unfamiliarity of all Santa farmers with the new crop; the company's overriding emphasis on high quality based on its overall pricing and marketing strategies; the elaborate and costly control systems introduced by the new management as a reaction to the fraud and waste that resulted from the previous lack of accountability.

IMPACT ON SANTA VALLEY FARMERS

The basic impact of ASAGRO on its contracted farmers has been to perpetuate and consolidate their position as independent farmers. Both the farm entrepreneurs and the family farmers were born and raised on farms, but worked many years as urban labourers or farm workers. They have dedicated the last ten or fifteen years of their lives to a single goal: to become independent land-owning farmers.

Despite years of effort, many farm entrepreneurs and almost all of the family farmers were still in a precarious position when ASAGRO began its asparagus operations. They lacked the capital or credit necessary to turn desert into arable land and begin farming.

For the 106 farmers desperate or adventurous enough to take a risk with an unknown crop and a new company, ASAGRO accomplished in a year what other farmers needed a generation to achieve: the transformation of sand lots into farms. Overnight, land that could not grow anything became a cash crop farm. From that point on, since the farm entrepreneurs could not pay their labourers nor the family farmers give up their outside jobs, ASAGRO made bi-weekly loans

so that those who cultivated the crop could survive over the three years until asparagus would become a paying proposition.

POSITIVE IMPACTS

A New Colonizing Crop

Asparagus's potential as a colonizing plant may be its most important value to the agriculture of the area. Other crops such as potatoes may be more profitable on already formed soils. The greatest advantage of asparagus is as a colonizer, since it will survive, if not thrive, on pure sand, and its plant cycle allows twice-yearly applications of organic material to fertilize the soil and gradually build up its structure.

This use of asparagus as a colonizer, however, is only feasible if the growers have their own source of organic material, such as livestock. The new ASAGRO management has determined that outside purchases of manure are uneconomic, even if yields were to increase substantially, and has therefore discontinued the earlier practice of financing such purchases. Although the technology exists which could permit small farmers to generate their own organic fertilizer, for example by composting or by grinding the asparagus bushes, company agronomists did not assign a high priority to experimentation or dissemination of these techniques. This is partly because other yield-depressing problems were more severe and promised more immediate results if solved, and partly because they did not believe many of their growers would be successful with these techniques.

Greater Labour Intensity and Employment Generation

Asparagus is a more labour-intensive cultivant than any other of the crops common to the area – corn, beans, sweet potatoes, alfalfa and potatoes. Compared with other vegetables grown by a few farmers in the area (lettuce, carrots, or tomatoes) or to other crop rotations, asparagus is unsurpassed in its labour-per-acre requirements. Moreover, because of its emphasis on quality and the need for year-round production, ASAGRO advocates techniques that are much more labour-intensive than those previously in use. Chief among these are the twice-daily harvest and the division of each farm into three successively blooming lots, so that one lot is always in production. This ASAGRO system, which is not used by other processors or

growers, offers advantages to everybody involved. The company benefits because its purchases are more easily spread throughout the year and because the constant-harvest system requires growers who live in town to attend their asparagus production daily throughout the year. Farmers benefit because both their income and their costs fluctuate less through the year and because the more stable labour force is easier for farm entrepreneurs to administer and for family farmers to supply. Farm labourers benefit because the employment demand is spread throughout the year.

Asparagus is such a labour-intensive crop that two-thirds of the family farmers must hire outside labour to supplement family workers, despite the small size of family farmers' plots (averaging ten acres per family). Those who do hire outside labour employ an average of two workers each during the harvest season (at least eight months a year).

Most family farmers who hire outside labour do so because their households lack internal labour resources. Usually such households are nuclear families whose children have yet to reach adolescence. But there are some family farm employers with average size plantings and three or four adult family members also working in the fields. ASAGRO calculated that a full-time farm worker is needed for each 4.25 acres. Using this ratio, it is possible to calculate that all but the smallest family farms or the largest families will have a more or less permanent need to hire outside labour. This further transforms the nature of the farm enterprise. As a result of the asparagus project, farmers who could not live off their own land and had to seek employment to survive, have become not only independent farmers but farm employers.

Farm labourers probably benefit most from the increased labour requirements of asparagus. The group that receives the next greatest benefit is probably family farmers planting asparagus. All of the families are using their full family labour capacity in productive income-producing work. Among family farmers, 68% must hire additional labour since their own labour resources are insufficient. This situation contrasts sharply with the same family's labour utilization before planting asparagus, when most had only a few acres under cultivation, and the crops cultivated were primarily corn and alfalfa, the least labour-intensive of the area's crops. Farms that previously got along with the daily farm chores of children and the part-time labour of their parents now require two or three adult males to work six and a half days per week, farm women to spend half their days with the asparagus, and children to work after (and often before)

school. Family farms previously could not support the family, but exported men's labour and underemployed everyone else's; they now supported the family, fully-employed all family members, and provided jobs for an average of two additional outside labourers. ASAGRO has brought a fuller and more productive use, not only of land and water resources, but also of labour resources.

Greatly Increased Technical Assistance

Another obvious benefit for these growers is the massive technical assistance provided by ASAGRO. Before occupying their present land, 79% of the Santa Valley sample had never operated their own farm. Although many had been raised on small farms and were therefore familiar with a farm lifestyle, it is nevertheless clear that, as a group, ASAGRO's farmers were unusually inexperienced.

Comparing the Santa Valley neophytes with the more experienced asparagus growers in Viru, for instance, company agronomists noted, on the one hand, that Santa farmers are easier to work with since they are more compliant and open to suggestions; and, on the other hand, that they consume much more of the agronomists' time since they lack basic skills in irrigation and fertilizing.

Any processing company which tries to introduce an entirely new crop to small outgrowers, faces a massive teaching job. ASAGRO's task was even harder, since in many cases it had to teach not only the particularities of asparagus cultivation but also the generalities of either small-farm management or farm techniques appropriate to the desert colonizing environment. The original management of the company resolved this problem through highly centralized management and the use of hired labour crews. Perhaps this was necessary in the beginning, but the original approach had the added effect of making possible a degree of financial chicanery that would not have continued unnoticed for so long if farmers had been given the responsibility to manage their own asparagus. With the new management, the emphasis has been much more on teaching, on explaining the 'why' as well as the 'what', and on lessening the farmers' direct dependence on ASAGRO.

The new ASAGRO management changed not only its general mode of operation but also most of the specific recommendations regarding asparagus cultivation (e.g. different transplanting seasons, seedling sizes, and plant distances; different types of chemical

fertilizer in different applications; harvesting based on the maturity of the plantings rather than time since last harvest; and so on). All of these changes are based either on greater attention to the economics of asparagus production or on results of the company's experiments. The changes seem sound, but changing so many recommendations in such a short time, combined with other more basic problems, contributed to a growing estrangement between the company and its growers.

It is important to emphasize the omnipresence of the company's technical assistance programme. Agronomists in their pick-up trucks and farm technicians on their motocycles circulate constantly among the widely scattered asparagus fields. ASAGRO-connected vehicles constitute most of the traffic on these rutted farm roads which were often first opened by ASAGRO traffic.

No more than two weeks pass without a consultation between each farmer and an agronomist; most keep in contact more often, and sometimes when there is a problem, the two work together almost daily until the crisis has passed. Except for missionary-sponsored extension personnel, no other technical assistance agents were encountered in the area. Nor could farmers recall ever having come into contact with any. Yet this area and these farmers have been, over the years, the 'target population' of a variety of government sponsored technical assistance programmes, all designed to increase both the productive utility and the small farmer benefits from the irrigation infrastructure. Evaluations of agricultural extension programmes often hinge on an assessment of whether or not contact was actually made with farmers and, if so, with what kinds of farmers and how many. The agribusiness-based technical assistance that ASAGRO has provided is on another level, as is this evaluation of its intended and unintended social impacts. With ASAGRO it can be taken for granted that agricultural assistance has been extended and received; the evidence is in the high quality harvest delivered daily to the ASAGRO collection centre. The peasants, however, do not perceive this. A majority claim that they are not receiving any technical assistance from the company; some even claim that they have never received such assistance. This perception is inaccurate, but it is very strong. The explanation for this anomaly lies in the farmers' association of technical assistance with a number of negative impacts during the project, as described below.

NEGATIVE IMPACTS

Negative Perceptions of ASAGRO Staff

The highly visible presence of such a large ASAGRO field staff was described by several farmers as a hindrance, not a help. Among themselves, and in the monthly meetings of their Asparagus Growers' Association, they describe ASAGRO's technicians as an army of parasites living off the farmers' asparagus production. When these farmers are asked about the company's technical assistance, they answer, not in terms of their recollection of advice received, but in terms of their general attitudes toward the company, whether it is helping them or harming them, and their general level of satisfaction or dissatisfaction with the project.

There is a lesson to be learned here about evaluation methodology: survey items designed to elict from the respondent a simple reporting of past behaviour elicit instead responses that serve better as indicators of present attitudes. Most attitudes were conditioned by one basic problem for the growers: the lack of farm profits. But other factors also contributed and farm unprofitability itself has several causes. These include low yields, rising debts, overpromotion, company evasiveness, and 'agribusiness normalization'.

Low Yields

The original contracts between ASAGRO and the farmers, contained, in writing, the company's expectation that farmers would harvest 4,500 pounds of asparagus per acre in each harvest after the first two. But the average yield achieved is only 1,700 pounds per acre, the very best yields barely top 3,500 and the poorest farmers on the sandiest soils achieve less than 1,000 pounds per acre. This is by far the company's most serious problem, the source of both its own economic woes and its farmers' discontent. At present yields and prices, the crop is simply not competitive with available alternatives. Most of the farmers themselves believe that asparagus is not a profitable enterprise, and would not be unless yields surpass 2,500 or even 3,500 pounds per acre. In the Santa Valley sample, two farmers said their asparagus business was profitable, four said that they could not yet answer the question, and twenty-eight stated that they were losing money on the crop.

What are the causes of these low yields? The biggest problem is an infestation of 'mealy bug', a pest which attacks the roots of the plant. The Santa Valley infestation is the first recorded instance of this insect either attacking asparagus or living underground. Weakened by the mealy bug, the plant becomes susceptible to fusarium wilt, leading to a 40% drop in the plant's yield.

In a sense, the important role of this infestation in reducing yields is a promising sign, since it is the only factor for which a quick cure is likely. Yields are also reduced by a number of poor cultivation practices: fertilizing the plants excessively, or too seldom or at inappropriate times; bedding the plants too deep (which produces fewer but longer shoots); the depletion of phosphate in the soil. These problems can be resolved, although it will take longer to get good results, since farmers are still following these mistaken practices as a result of the bad recommendations made by the original ASAGRO agronomists.

Farmers have been slow to accept the new recommendations for several reasons. Firstly, it is not intuitively obvious that using lesser quantities of cheaper fertilizer earlier in the plant cycle will produce better yields at harvest time. The present agronomists are not as good salesmen as the original promoters. Secondly, and most important, there has not been any demonstration effect so far of the new fertilization programme, as the increasingly serious mealy bug infestation has counteracted any improvements in productivity that might have otherwise occurred. Yields were also reduced by early errors that are less easily corrected. Many fields simply contain too few plants set too far apart and there is little that can be done about this. Likewise, yields will always remain low on plantings that were made in extremely sandy soil, now that tests have shown that large purchases of manure cannot be economically justified at present prices.

Although asparagus productivity will undoubtedly rise once the mealy bug infestation is treated and other agricultural practices are improved, it is highly unlikely that even the best of present plantings will ever reach the 4,500 pound level promised in the original contracts. The average is unlikely to exceed 2,750 pounds. Still, this will almost double productivity, sufficient to make the asparagus profitable and to keep the farmers from plowing their asparagus under, even if not enough to attract many farmers away from more flexible and more profitable crops.

Rising Debts

ASAGRO introduced not only a new crop to the Santa Valley, but also a new system of agricultural credit. In a sense, the company was taking the pattern of agricultural credit previously used by Peruvian government agencies to finance production on the land-reformed, collectively-farmed cooperatives and applying it to individual farmers in the private sector. In this system, farmers are paid as they work, as if they were wage earners instead of self-employed independents. The farmers receive and spend money which they believe they have earned by their labour. But the already-spent money is merely a loan not a payment; it will not actually be earned unless and until the crop has been successfully harvested. Should any unforeseen problem arise, such as the mealy bug infestation, then the farmer–borrower finds himself confronted with an impossible debt which he has only half-deliberately assumed. The lender, in turn, finds itself confronted with a massive bad debt and a class of angry clients. This type of farm credit system has not worked in Peru's collective farming sector; most cooperatives are buried in debt and demoralized by the apparent impossibility of ever getting free. It has not worked much better in the private sector.

Like small farmers everywhere, farm debt makes the asparagus growers nervous; their apparent inability to reduce the size of that debt makes them fear for their farms. Their debts were originally projected to be paid off after the third harvest, two years from the planting date. Now, with interest rates up and projected yields down, it is expected that farmers will only begin to reduce their debts at that point, not eliminating them until three or four harvests later. These debts represent dependency to the farmers. Most have no other source of income, and until the profits of asparagus increase, they must keep borrowing more. They resent the whole process but most keep on borrowing. Farmers feel that their debts are static and their harvest deliveries merely pay for cumulative interest and recent borrowings, leaving the basic debt at the same level as before.

Company agronomists advise the farmers not to be overly concerned about their debts. The rate of inflation is so much higher than the interest rate that nominally static debt levels actually represent 40% annual reductions in the real value of the debts. But these inexperienced farmers do not understand this point and are not

reassured when the agronomists explain it. Debt peonage is a recent historical reality in Peru and farmers refer to it constantly in fear and with anger.

The company has terminated the experiment, continuing with its present contract farmers but refusing to extend this kind of credit to new growers. Like the members of the bankrupt cooperatives, the company's farmers are alternately angered and demoralized by their increasing indebtedness. Privately, the ASAGRO administrator predicted that half of the original farmers would ultimately prove unable to repay their debts, not because the debts were so high but because the yields were so low. Eventually, he said, the company would have to write off these debts as lessons learned. The causes and consequences of indebtedness must be a major part of the analysis of the social impact of ASAGRO in the Santa Valley.

The Asparagus Growers' Association has demanded that the company forgive the principal and interest incurred before the first harvest, and that debts be reduced for those farmers who were producing asparagus before the plant was finished and ready to receive it. Local ASAGRO management recommended that some of this debt be written off as a cost of promotion but top management in Lima did not concur. The debt issue continued to be a principal source of grower dissatisfaction.

Overpromotion

Since the Santa Valley growers are new both to asparagus production and contract farming in general, they have no reference point on which to base their expectations of the company. Thus, although yields and profits are low, they look much lower when compared with the inflated promises made by the salesmen agronomists who signed them up. Present company behaviour suffers in comparison not only with previous promises but also past practices. The present rigorous cost control contrasts unfavourably with the open-handed generosity with which loans were once made. Nothing represents better the farmers' ambivalent attitude toward their debts than this: they dislike limitations on current borrowing almost as much as they dislike the very high debts that result from the lack of such limitations in the past. In part, the farmers' dissatisfaction with the programme is simply the result of the inevitable discrepancy between aroused expectations and reality.

Company Evasiveness

In their dealings with growers, ASAGRO agronomists have felt constrained by the need to conceal from farmers certain important facts about the company operation. Most important of these is the suspected fraud of the former administration. Farmers know nothing of this. Agronomists have tried to serve the interests of justice while not revealing to the farmers the nature of the problem. They have requested each farmer to come in and review the status of his debt account, a request which few farmers acted on since they are not aware of the nature of the potential problem. They have suggested to the central administration in Lima that the company should write off part of this debt for promotional reasons. Meanwhile farmers, who are terribly concerned about the large size of their debts, do not suspect that the 'generous and friendly' former administration might have defrauded them, or that part of their debt probably resulted from interest piled on top of artificially inflated expenses.

Similarly, both of the agronomists in administrative positions stated in interviews their belief that half of the Santa Valley farmers will never achieve profits sufficient to fully repay their debts. The least experienced small farmers on the poorest plots, they think, should never have been recruited into the programme in the first place; eventually much of their debt will have to be written off when these farmers finally give up on asparagus and turn to more promising crops. It is vital to the company to recover as much of this debt as possible, of course, so forecasts such as these cannot even be hinted at in talks with farmers. Farmers continue to fear the loss of their farms to repay debts that the company privately expects to write off.

Even if these farmers should manage to repay their debts, something which is increasingly possible as their real value declines due to inflation, the company has already decided not to continue working with distant and isolated growers. Even if productivity dramatically increases and the farmers wish to plant more asparagus in the future, they will not be allowed to do so unless a significant number of their neighbours also sign up. And not just any neighbours. ASAGRO has determined in the future to accept only those new asparagus growers who are experienced and have the wherewithal to plant twenty-five acres of crop. In the most distant and newly colonized parts of the valley, few asparagus growers have neighbours who qualify.

Agribusiness Normalization

Part of the grower dissatisfaction reflects an apparently universal characteristic of new agribusiness projects, 'agribusiness normalization'. To start up operations and sign up farmers in a new area, processing plants must pursue promotional policies that are more advantageous than the company expects to maintain over the long run. At ASAGRO this transition was more abrupt than usual. The move out of the start-up phase was marked by a total change in administration from a group of promoters unconcerned with costs to a team of administrators who were told to get runaway costs under control. The abruptness of the transition increased the grower discontent that was already present.

GROWER ORGANIZATION

Almost as soon as ASAGRO started purchasing asparagus in November 1979, the Santa Valley growers began discussing the formation of an Asparagus Growers' Association to represent their interests to the company. This movement gained ground rapidly over the next few months, spearheaded by sharp farmer disagreement over rising interest rates, the initial asparagus price (which, when the plant opened, had not been adjusted upwards for inflation since the original contracts were signed in 1978), and the daily problems of administrative disorganization.

According to the administration which took over in March 1980, the idea of the Growers' Association was actively fought by the earlier administration. The new administrator says that he changed company policy on this issue. Perhaps he was bowing to the inevitable, but he also recognized the possible benefits to the company in terms of improved communication, coordination and discipline of the growers. At any rate, almost immediately after the new administration began operating, the Association of Asparagus Growers was formally organized and legally constituted. It immediately began collective bargaining with the company, resulting in a rapid succession of price increases, in return for which the Association agreed to reduce the length of the asparagus sold to the company from ten to eight inches.

This illustrates how a collective bargaining unit can, as the new ASAGRO administration hoped, help the company. Without the

existence of the Association, the company could never have reduced the size of its asparagus purchases without a prolonged campaign and considerable conflict between each farmer and the company field representatives. When the Association agreed to the change as part of an overall agreement that included a price increase, the growers' own Association was coopted to take on the role of communicating, legitimizing and disciplining individual farmer's acceptance of the decisions. In return for this substantial advantage, the company gave up very little, since the original asparagus prices were so low and the rate of inflation so high that price concessions could have had only the most temporary impact on overall profitability.

By organizing their Association so quickly and entering into the process of collective bargaining, the Santa Valley farmers demonstrated their organizational and political sophistication, the result of years of negotiating with government and agrarian reform bureaucracies. It may be said of the group as a whole and the farm entrepreneurs in particular that they have had much more experience extracting benefits from bureaucracies than they have crops from the soil. With a couple of exceptions, it has been the more highly educated and articulate farm entrepreneurs that have provided the leadership for the Association.

The Association served reasonably well its dual function of representing farmers' interests and facilitating communications between the company and growers. It served equally well the latent unintended function of lessening farm isolation and integrating its members for the first time into a larger social and communication network. Because they live in a newly colonized area peopled by a diverse group of immigrants from all over Peru, family farmers who reside on their parcels have been unusually isolated from any social participation outside their own family unit. There are as yet no important community or commercial centers in these areas, no community traditions or established organizations. For its 106 growers, ASAGRO has to some extent filled this gap. Farmers first got acquainted with each other as they congregated together every second Friday waiting for their cheques. Recently the company held its first annual field day for Santa Valley growers, a day-long fiesta for farmers and their families at the Cambio Puente collection centre. But the Association, organized into four sub-districts which meet together monthly, serves this social function even better. For those family farmers who do not belong to one of the church groups, the Association of Asparagus Growers is the only organization to which they belong, the only

group identity that is based on their new occupation and in their new area of residence. However, the Association has only one female member, a farm entrepreneur whose husband is too ill to manage their farm. Apart from her, the Association is a male organization, serving the social integration needs only of the adult men in the family. Women become, as we shall see, even more isolated than they were before asparagus arrived.

CHANGES IN THE ROLE OF FARM WOMEN

Most of the wives of farm entrepreneurs do not live at the farm site and have almost no contact with its operation. With one or two exceptions, even those who live on the farm seem to have no involvement, at least with cash crops such as asparagus. Family farm women, on the other hand, are as much a part of the asparagus operation as the men. For this group, the switch to asparagus farming has had as great an impact on their lives as it has on their husbands, sons and brothers.

The cultivation of asparagus on previously barren land has exacerbated the 'double shift', the dual burden of house and farm work borne by these women. Like the men, adult women usually work about 35 hours a week in the asparagus fields. This additional workload is compensated only slightly by a corresponding reduction in household work responsibility. At best, the wife can afford to worry less about scraping together small quantities of fruits, eggs or other produce to sell in Chimbote as an income supplement. But none of the women ever spent significant proportions of their energy in such pursuits anyway. If men of the family formerly supplemented their income by fishing, then she has also been spared a time-consuming task: preparing the fish and peddling it in town. The only activity that most farm women have given up are the trips to the town market. Many women now go into town only once or twice a week, and for shorter trips, since they go only to purchase, not to sell.

Picking and classifying asparagus, literally 'stoop labour', is universally considered by those who do it in Peru to be easier, lighter and more pleasant than other farm tasks. Men who now do this kind of work instead of other farm labour, either on their own farms or as labourers elsewhere, undoubtedly work longer and more productively, but not necessarily harder. For them, the impact of asparagus on their work has been nearly ideal: an end to under-employment,

greater productivity and greater income, without a corresponding increase in the intensity of the labour. The impact on women's work is mixed: less under-employment, greater productivity, but more time spent in field work, and intensified household work (since the same amount of work must be done in less time).

The net effect on women's income appears to be positive. The changes brought about by contract farming reduced or eliminated some sources of independent female income, e.g. sales of fish or peripheral farm products. However, total household income increased considerably; the great bulk of this was controlled by men but some did trickle down to women. Women came to control a smaller percentage of household income but a larger absolute amount. Expenditures on food and other basic needs (the purview of women here) increased. So did female dependence on men within the household.

For both men and women, this required adjustments in the money-related aspects of their family roles. In the past, a man could spend his income irresponsibly, at least occasionally, without putting his family into an unusually difficult position, since women had some separate sources of income. Now he has to be much more of a money manager. Every other Friday he must put in a loan request for money he will receive two weeks later to cover expenses during the two-week period after that. Although he receives considerable assistance from the ASAGRO agronomists, this kind of detailed financial planning was a new experience. At the same time as he asked for this new loan, he received a cheque based on his last request. This cheque must support not only him and his family for the next fourteen days, but in most cases, the families of his paid labourers as well. Since this increased financial responsibility has been a new burden for him, it has probably taken some time to adjust to.

THE ASPARAGUS GROWERS OF VIRU VALLEY

Viru, the nearest important farm valley to the north of Santa, is eighty uninhabited miles from the Santa Valley plant. Like all the other northern valleys except for Santa, its irrigation source, the Viru River, is only seasonal. It was thus affected, as Santa was not, by the terrible five-year drought that devastated northern Peru in recent years. The long-established systems of collective irrigation broke down under the water shortage; farming is now dependent upon

expensive water brought to the surface by petrol powered pumps. Most family farmers of Viru, therefore, own land which they cannot cultivate because they do not own a pump and because they cannot afford to buy much water from their wealthier pump-owning neighbours. Whereas small farmers in Santa are in the process of colonizing land never before cultivated, in Viru they are giving up on parcels that have been cultivated for centuries.

In the 1950s and 60s, Viru agriculture was dominated by a small number of innovative large landowners who pioneered the production of asparagus in Peru. Eventually, ten or twelve of these landowners were each farming 150 or so acres of asparagus, and either operating small canning plants on their own estates or selling to processors in Trujillo. These estates averaged 5,250 pounds per acre, more than double the present rate. This export-oriented production system was dealt a severe blow by socialist reforms introduced in 1968. Land reform broke up the estates, some of which remained collective farms and some of which were split up into small individual parcels. The Liber processing plant was turned over to its workers as a 'social enterprise'. Government farm policy emphasized production of basic necessities for local consumption; the small, luxury export asparagus business was not well regarded.

By 1980, the asparagus industry in Viru was on the verge of extinction. The only two buyers, Liber and San Fernando, were respectively disorganized and decapitalized, unable to provide even short-term farm credit and incapable of paying for the dwindling production of the asparagus acreage for which they still had contracts. In 1981, Liber ceased to purchase asparagus altogether and San Fernando, despite an additional line of credit from AID, was unable to expand its purchases or offer harvest financing.

ASAGRO's Operations in Viru

This was the situation which faced the Viru asparagus industry when ASAGRO appeared on the scene in late 1980. In the short time it has been operating, the company must be credited with a complete rejuvenation of the industry. This turnaround is its principal social and economic achievement. With ASAGRO the leader, the price of asparagus rose more than 100% (for first-quality product). In the process, the price structure has been reshaped to offer more incentives for quality. The company has made available short-term credits for existing asparagus farmers. In addition, its purchase guarantees

have enabled two farmers to successfully apply for the first asparagus production credits from the Banco Agrario, the Government's agricultural development bank. Though the evidence is sketchy, it appears that total Viru asparagus plantings increased in 1981, the first time this had happened since 1968.

Aside from this economic impact, the company's operations in Viru have already begun to have direct socioeconomic consequences for asparagus farmers and farm employees. Some of these effects are different from those observed in the Santa Valley, for three reasons: differences in historical and ecological context; different expectations of the company among these experienced asparagus growers; and early implementation of the new policies favoured by ASAGRO's present management. Still, the central source of these differences is Viru's status, unique in Peru, as an established asparagus producing centre.

The main promotional tool that has brought ASAGRO success in Viru has been its willingness to make short-term loans. These loans are interest-free advances against the next harvest, which in the asparagus production cycle is never more than four months away. The practice is traditional in the Viru asparagus industry, but competing buyers are too financially extended to continue with this kind of credit. The practice, always beneficial for the farmer, is even more so to ASAGRO, since it obliges the farmer to sell his product to them first. ASAGRO also gives the highest price, but only by a small margin. As a result of its more favourable credit terms and prices, ASAGRO is close to a monopsony position in the Viru asparagus market. Liber has for all practical purposes given up the asparagus business and San Fernando continues primarily because of a few remaining contractual obligations.

ASAGRO's rapid domination of the market would be potentially dangerous for the farmers, but competition arrived soon after the fieldwork was completed. Partially financed by AID, the original pre-socialist owners of Liber formed a new company and completed construction of an asparagus canning plant in Viru itself. AID also financed feasibility studies for other potential asparagus processors, two of which have begun operations.

Viru farmers differ from those of Santa principally because they are, in all aspects of their farming life, more established. They have worked their own land longer, many of them all their lives. They are older, they have been growing asparagus longer, and their asparagus plantations are longer established. The farm entrepreneurs are somewhat larger, much more experienced at farm management, and

generally more successful. Family farmers, though they have smaller lands than their Santa counterparts and more expensive water, also reap the benefits of older farm investments, fruit trees, animals and asparagus plantations. As a group, their farms are more profitable, their incomes higher and their standard of living visibly better. From their longer experience as independent farmers, Viru agriculturalists not only have greater farming knowledge about asparagus but also about other crops. Most of the smaller farmers concentrate on asparagus, but on their spare land, they tend to grow higher value crops than Santa's corn and alfalfa.

Just as its farmers are more established, so, of course, is the Viru community. As it is not a colonization zone, it has a much lower proportion of recent immigrants than Santa. Most people that live there were born there and they remain embedded in the kinship networks that first nurtured them, provided them with their farms, and which still will provide help in emergencies.

These 'roots' carry with them customs and traditions which both help and hinder the worker-farmers. Viru farmers have ideas about how to propagate their own asparagus seed beds, how to transplant the seedlings, and how little water and fertilizer they can get away with. As a result, they spend less money and get significantly greater production than do the farmers of Santa. But if they buried their asparagus crowns less deep in the soil, their yields would be even greater. It they harvested twice a day, the higher price and quality would more than compensate for the additional labour. For this last reason alone, the quality of Viru asparagus is so much lower than that of Santa, that even with its greater production, Viru's income per hectare is only about the same as Santa's. The same asparagus traditions that provide a firm base for a secure income also limit the further development of farming skills and farming incomes.

ASAGRO did little to insist that its farmers follow company advice rather than asparagus tradition. ASAGRO was still new to Viru, still in the promotional phase of the agribusiness normalization process. The ASAGRO agronomist in Viru frequently referred to the benefits of shallower beds or twice-daily harvests. But these ideas were simply mentioned in general conversation, and explained only if the farmer picked up on them and started to ask questions. This approach reflects the initial stage of company–grower relations. With these new growers, the company is still playing the role of the grateful recipient; not until later will it settle into the role of the powerful buyer with exacting requirements.

A second reason why ASAGRO spends less on technical assistance to Viru farmers is economy. Since such technical assistance is not absolutely necessary to obtain adequate quantities of acceptable asparagus, the company can cut back its expensive efforts in this area. The company's whole Viru operation is handled by only one unassisted agronomist. The grower-to-employee ratio of the field staff in Viru is therefore almost eighty to one, compared to the seven to one ratio in Santa. In this way, the Viru operation reflects ASAGRO's present policies of working only with experienced farmers who need less technical assistance.

IMPACTS

Higher Quality Standards, Lower Prices

ASAGRO not only provides its Viru growers with much less financing and technical assistance, it also applies stricter classification standards, resulting in a lower effective product price. In Viru, ASAGRO follows the practice, already established by its competitors, of classifying the product at its own collection centre before weighing and formally receiving the product. The classification is done by a subcontractor, who earns the same small percentage that in Santa is paid to the farmers themselves for this work. The subcontractor provides employment to an overseer, two male porters and twelve to twenty female classifiers at the Viru collection centre.

This system results in much stricter classification norms than those followed by the farmers of Santa. Also, all asparagus is routinely trimmed to precisely eight inches, which further reduces the purchase weight by as much as 10%, compared to the slightly over-length asparagus which the Santa farmers manage to deliver. The Viru system also results in the farmer (rather than the company) absorbing the product weight loss due to the dehydration of the product during transport and classification. Not only does the Viru system result in the farmer being paid less, but he must trust the company more, since he plays no part in the classification or weighing of his product.

Greater Grower Satisfaction

By any objective measure, ASAGRO's outgrower system in Viru is less favourable to the farmers than its original system in Santa. Viru

farmers are offered less credit, given less technical assistance and paid less for their product. Yet Viru farmers are unanimous in the opinion they express in interviews: they are not just satisfied but enthusiastically pleased. The farmers of Santa, on the other hand, are nearly unanimous in their very different opinion: they are angrily disillusioned. What accounts for the difference?

First, Viru farmers are making a profit (at least they believe they are) and the Santa farmers are not. Although gross incomes per acre are about the same, costs are somewhat lower in Viru and only the Santa farmers have access to long-term credit and the resulting 47.5% nominal interest charges. Asked if they thought their asparagus cultivation was profitable, only two farmers in Santa said 'Yes', while all of the farmers in Viru answered 'Yes, of course.' However, Santa farmers had a fairly precise picture of their costs, incomes and levels of profit and debt, because they routinely received this information from ASAGRO agronomists. Viru farmers, in contrast, had only vague notions of these concepts, since few keep detailed accounts.

Second, the two groups had different reference points, which result in different levels of expectations. Viru farmers are satisfied because they compare ASAGRO with the lower prices, less available credit and greater disorganization of Peru's other asparagus producers. Santa farmers are dissatisfied because they compare ASAGRO with the oral and written promises of the agribusiness promoter who originated the project and first convinced them to participate.

Third, ASAGRO's operations in the Santa Valley were three years older than its recently developed Viru programme. The relationships between the two groups of farmers and the company were therefore in different stages of the agribusiness normalization process. Santa farmers were experiencing the normal conflicts of the later phase of the process; Viru farmers were still in the 'honeymoon' phase.

In summary, the social and economic impact of ASAGRO on the farmers of Viru appears to be somewhat less positive than its original impact on the farms of Santa (discounting the early cases of fraud in the latter area). But the sources of the most dramatically positive of the Santa impacts, the original 'making' of smallholders' farms and the provision of 100% financing, have not proved economically feasible. Such policies could not be sustained and the expansion of such impacts to other groups of small farmers, either by ASAGRO itself or by other companies following its example, cannot be expected. Furthermore, the very aspects of the original Santa project that provided the most positive socioeconomic impact were also responsible

for the unintended side effects of dependency and dissatisfaction. The Viru model appears to be more workable for future agribusiness planners. Though it strives for less positive impact, its levels of risk and investment are lower and its potential negative impact is correspondingly reduced.

4 McCain Foods, Canada: The Political Economy of Monopoly

Politics and business don't mix. New Brunswick's too small for politics.

K. C. Irving, New Brunswick entrepreneur

This chapter deals with McCain Foods Ltd., a potato processor in New Brunswick, Canada. The case is of interest for a variety of reasons. First, agribusiness in the St. John valley of New Brunswick is a very complete 'system' which affects virtually every aspect of life in the area. McCain has been here for some twenty-five years, time enough to produce long-term effects on farming practices and community life. Furthermore, McCain has used this time to consolidate and diversify its activities in the area to the extent that it now forms a classic case of monopoly. Most contract farming situations involve some degree of monopoly, with a multitude of growers facing at most a couple of firms. The McCain case is a 'textbook example' which shows what happens when such concentration is carried to the extreme.

Second, the case is highly politicized. Some farmers have been angered by the company's policies and have attempted to form growers' organizations to publicize their views and to negotiate with the company. Two quite distinct organizations have been formed; their histories provide insights into the organizational problems faced not only by contract farmers, but to some extent, by farmers in general.

McCain Foods Ltd. is a Canadian-based transnational corporation with headquarters in Florenceville, New Brunswick. It is currently the world's second largest french fry producer, with a total of fourteen plants in seven countries. Its potato requirements are met largely by contracting, although spot market purchases and internal production are also important. The firm is quite diversified, producing a variety of frozen foods, and its subsidiaries are involved in trucking, storage, sales of farm equipment and fertilizer, and other fields.

McCain Foods was incorporated in 1956 in Florenceville, New Brunswick and its first french fry plant went into operation there the following year. Since 1969, it has operated a second plant in New Brunswick at Grand Falls, 100 km. northwest of Florenceville. Both are located in the St. John river valley. This study, carried out in 1980, deals only with the firm's New Brunswick operations, and focuses on the relationship between the firm and the farmers under contract to supply it with potatoes.

The chapter begins with a brief outline of the recent historical development of the St. John valley potato industry. The growth of McCain Foods and its current role in the valley are also described. In the next sections, the relationship between the firm and its contracted suppliers will be examined. The topics to be discussed here include the farmers' motives for contracting; the alternatives available to them; the means available to the firm for obtaining supplies at the lowest possible price; and the purpose and effect of the firm's internal production. The final section discusses the political activity of farmers *vis-a-vis* McCain, describing, *inter alia*, the organizational problems specific to contract farmers, the types of organizations established, and the role of the provincial government in influencing the process of organization.

BACKGROUND

THE NEW BRUNSWICK POTATO INDUSTRY: 1950 to 1980

Over the last thirty years, the New Brunswick potato industry has changed dramatically. Perhaps the simplest way to describe this process is first to list some of the most visible changes and then to offer an historical account which ties some of these developments together. (Unless otherwise noted, all data are from the Canadian census.)

Some of the most important changes are:

1 A decline in the number of farms. The number of farms in the St. John valley in 1976 was 47% of that in 1961; for all of Canada, this figure was 62%.

2 An increase in farm size, the average for the St. John valley farm increasing to 366 acres, from 202 acres in 1961.

3 Increased mechanization, specifically a switch to harvesters from less elaborate 'diggers' and a marked decline in the use of hired labour.

4 An increase in the percentage of potatoes being processed into french fries from 15.7% in 1957 to 64% in 1978 (Senopi, 1980). Total acreage in production has remained roughly constant.

5 An absolute decline in the number of potatoes sold on the fresh ('table') market.

6 Increased geographical concentration of potato growing. In the early 1950s, about 60% of the province's potato acreage was located in the St. John valley (i.e. Victoria, Carleton, and Madawaska counties). By 1976, this figure was 96%.

7 Increased specialization in potato production within the valley and within farms. The number of farmers growing crops other than potatoes has declined and individual farms are less diversified than before. Potato acreage has also become increasingly concentrated in the larger farms. Farms in the largest category (over 1,600 acres) now grow over 500 acres of potatoes, a very large acreage for this crop.

8 Increases in the cost of land, farm equipment and inputs. The average value of land, buildings and machinery per farm in real dollars increased more than three times over the fifteen-year period. This increase is comparable to that occurring nation-wide.

The single most important factor in initiating these changes has been the establishment of a potato processing industry in the valley (Smith, 1980). Prior to this development, most potatoes were grown on fairly small farms and harvested by crews of workers who followed behind a digging machine; up to 60 acres or so could be harvested in this way. The potatoes would be stored and graded on the farm over the winter, and sold as table potatoes in Ontario and Quebec, as well as in New Brunswick. Once a processing plant was established, in Florenceville, different techniques were encouraged. Grading was done at the plant, so the labour and equipment for on-farm grading was no longer needed. The capital saved in this way was put into

mechanical harvesters. In order to spread the cost of this expensive machinery over a larger volume of production, farmers began to cultivate larger acreages. The initial cost of the harvester and additional land was greater than the first year's saving from the elimination of grading, however, and loans were necessary to finance this expansion.

The switch to mechanized harvesting allowed a greater volume of production per farmer but at the expense of quality. Harvesters, particularly the early models, were rough on the potatoes, and produce harvested in this fashion was not suitable for the fresh market. The decline in New Brunswick's reputation as a source of high-quality table potatoes can probably be traced to this period.

The decline in the fresh market for New Brunswick potatoes has a number of additional causes as well. The percentage of potatoes consumed in processed form has increased greatly, partly because of the spread of fast food restaurants. The Ontario and Quebec fresh market is being supplied increasingly from within those provinces; to some extent, provincial government policies, encouraging self-sufficiency, have been influential. The remainder of the fresh market has been taken over by produce from Prince Edward Island. Harvesters are less common there and those in use do less damage to the crop than they do in New Brunswick's rocky soil. Prince Edward Island also has a transportation advantage; many growers are able to transport potatoes directly to port, while New Brunswick growers must transport their harvest longer distances.

Many of these changes are not unique to the New Brunswick potato industry but are common to farming in the province and in Canada generally. For example, the total number of farmers in New Brunswick declined from 11,786 to 3,244 between 1961 and 1976, although this decline (to 28% of the previous level) is not as severe as the drop in potato farms (to 11%). Furthermore, this reduction was under way before the establishment of the processing industry. The shift to mechanization also appears to have been influenced by the increasing scarcity of labour at harvest time, a phenomenon observable in Canadian agriculture generally.

To summarize, it is difficult to isolate the factors that have influenced change in the New Brunswick potato industry. While many of these changes have occurred in other areas of Canadian agriculture, it is probable that they would not have occurred as rapidly in New Brunswick if not for the establishment of a processing industry. For the purposes of this study, the most significant charac-

teristics of the St. John valley potato industry are a marked decline in the number of farms; the steadily increasing disposition of potatoes to the processing sector; and the decline of the market for New Brunswick table potatoes, the farmer's principal alternative to the process market.

THE McCAIN GROUP

The 'process market' just referred to is, in fact, a single firm, McCain Foods. McCain Foods was established in 1956 by four brothers, Andrew, Robert, Harrison and Wallace McCain. The firm remains a family business to this day, selling no shares and publishing no annual report. While it is often said that the brothers built their empire up from nothing, in fact they were in quite an advantageous position to enter potato processing. The McCains' father and grandfather had both owned large potato shipping firms; Hugh Henderson McCain had been active in the New Brunswick potato industry since the 1880s. More important, the brothers inherited a large 'land bank' with which to finance their business ventures. An examination of Carleton county records shows a process of land acquisition by Andrew David McCain (the current generation's father); after 1956, the McCain brothers sold off much of the land they had inherited to finance their industrial expansion before entering their current phase of reacquisition of land.

In 1961, Valley Farms Ltd. was incorporated as a wholly owned subsidiary of McCain Foods Ltd. producing potatoes to supply the Florenceville french fry plant. During the 1960s, McCain set up or acquired other companies in New Brunswick, while the 1970s witnessed the bulk of McCain's international expansion. The role these subsidiaries play in the St. John valley has been illustrated well in a report prepared by Senopi consultants:

> Potatoes are grown on McCain land (Valley Farms Ltd.) enriched by McCain fertilizer (McCain Fertilizers Ltd.) using McCain seed (Foreston Seed Co. Ltd.). Harvesting is done with McCain machinery (Thomas Equipment Ltd.) and the harvested potatoes are either stored in McCain facilities (Carleton Cold Storage Co. Ltd.), sent to McCain's plant for processing (McCain Food Ltd.), or sold fresh. In the latter case, the potatoes are handled by McCain shippers (McCain Produce Co. Ltd.) which use McCain

trucks (Day and Ross Ltd.) to move them to McCain storage facilities (Bayside Potatoport Ltd.) at the point of shipping. The processed potatoes can similarly be moved in McCain trucks (M & D Transfer Ltd.) for shipment abroad, wherein one of McCain's sales distribution systems (McCain International Ltd.) handles the marketing (Senopi, 1980, p. 33–4).

The McCain group of firms obviously displays a high degree of vertical integration. The scale of operation at each stage is not strictly geared to meeting the firm's supply requirements, however. For instance, the firm grows less than 5% of the potatoes it needs for processing; conversely, it sells more fertilizer, farm equipment, and trucking services than it uses itself.

The supply of fertilizers to New Brunswick is provided by three firms; in order of importance they are: McCain, Genstar and CIL. One source sets McCain's market share at 34% (Senopi, 1980, p. 20). There are two principal suppliers of equipment needed for potato farming: Thomas (i.e. McCain) and Lockwood (a U.S. firm). McCain's market share here is roughly two-thirds. McCain's share in trucking is probably over half; its competitors are numerous and small. In seed potato exports, McCain is the dominant firm of three. In other areas, McCain is relatively inactive. Storage is done on the farm; seed is generally purchased from government seed farms, the operating costs of which are subsidized; the table market is handled by a new firm, Gemvak, and a multiplicity of small shippers and brokers, many hiring Day and Ross (McCain) trucks. In most cases, McCain is the dominant firm in a very small oligopoly.

FIRM–GROWER INTERACTION

McCain Foods purchases its potatoes for processing in three ways: contracting, spot market ('memo') purchases and internal production. For both firm and farmer, contracting acts principally to reduce the risk of price fluctuation. The contract requires the grower to deliver and the company to accept a fixed volume of production at a pre-set price. Potatoes are stored on the grower's property at his expense and 'called up' when the company requests delivery. The price increases at a fixed rate during each month of storage. Inspection is done by the company but either party may request arbitration by a federal inspector. Technical assistance is not a

significant aspect of the contracting relationship. The proportion of McCain's supplies purchased under contract varies between a half and three-quarters, the variation occuring because neither prices, yields nor final demand can be predicted exactly. (That is, if spot market prices or yields on contract growers' land are low or if the demand for french fries is very high, spot market purchases will be increased.)

In years when the market price is expected to be high in the autumn, the firm will contract heavily in the spring at a price it believes to be lower than the market price will be; when a low market price is expected, fewer supplies are contracted. In every year since its inception, except 1980, McCain has guessed correctly by contracting for low volumes in low market price years, indicating either extraordinarily good luck or very good market information. In response to criticism that its contract price is too low, the firm has stated: 'In thirteen of the last twenty years, our contract price has been higher than the average price received from all sales of all potatoes in New Brunswick' (McCain, 1980a). Since McCain made small contract purchases in those years, however, the benefits to the farmer of those high prices were correspondingly reduced.

No farmer is required to contract 100% of his potatoes to McCain. The firm, in fact, recommends that farmers contract around two-thirds of their potato acreage and sell the remainder on 'memo'. The risk that there will be no demand for uncontracted potatoes does not seem to be a serious one, since McCain has always had trouble obtaining Netted Gems – the preferred variety for processing – and says that it will buy any Gems available.

Risk-hedging is not the only motive for a farmer to contract; in many cases, access to credit is more important. Prosperous or well-established farmers can generally obtain loans from private banks without difficulty. For a less prosperous individual or a young person who wants to enter farming, the situation is somewhat different. Here the applicant is often required to show a contract before a loan will be granted. The contract is more than an indication that the farmer has hedged his risks and is thus fairly secure; the contract provides collateral for the loan. If necessary, the bank can instruct the processor that all payments for the contracted crop should be made directly to the bank, bypassing the grower.

Contract growers are also eligible for credit from McCain. The firm does not give cash loans but its subsidiaries (e.g. those selling fertilizer or farm equipment) will accept contracted potatoes as

payment. (At one point, the contract stated: 'The Company reserves the right to withold payment for potatoes delivered by the Grower up to the amount said Grower is owing any of the McCain Group of Companies.' This clause was discontinued after 1977.) This source of credit is a last resort for the farmer, for several reasons. First the firm's interest rate is very high: in 1980, it was 24% *vs* 15% from private banks. Second, the farmer cannot choose the source of his purchases; for example, he cannot get credit from McCain to buy a Lockwood harvester. Finally, inputs purchased on credit are sold at full 'list' price rather than the normal price charged for cash sales. A 1977 study reported the list price for one ton of fertilizer as $131 plus interest; the cash price was $120 (Martens, 1977, p. 17).

A credit-related problem of greater potential importance is the possibility that a farmer may become 'locked into' growing for McCain. It is unlikely that a $50,000 harvester could be paid off in a single season; the farmer would have to contract potatoes to the firm for several years. (Although contracts run for only one season, it is possible to come to a verbal agreement with the company to supply it for several years.) It may be that the first year's price is good and that the decision to contract is undertaken freely; once in debt, however, the farmer must take whatever price is offered, even one below the costs of production.

The possibility of being 'locked' into growing for McCain results from three conditions: debt, monopsony, and the specialized nature of potato equipment. Where these three elements exist, a grower can find himself locked into selling to McCain even when he borrows from a bank. Even a bank loan for a harvester must, in effect, be paid for with potatoes from that harvester. Assuming that a farmer signs a contract with McCain in order to get a bank loan, he must then invest in equipment suitable, not just for potato cultivation, but for *process* potato cultivation. The trucks used for delivery to the plant are different from those used for delivery to table or seed shippers. Table or seed potatoes must also be graded on the farm – this requires conveyor-type equipment worth about $10,000. Furthermore, the harvesters produced by McCain are designed for high volume at the expense of quality; potatoes handled by these machines are difficult to sell in the table or seed markets. A farmer who grows process potatoes has one buyer (McCain) and a farmer wanting to switch to an alternative market must make a substantial investment in new equipment. Again, it is the least prosperous farmers or those with the least access to credit who can be trapped.

To conclude this discussion of credit, two other sources should be mentioned – the federal and provincial governments. Both provide loans, but these are mainly intended to finance permanent improvements to the land and are not available for purchases of machinery or inputs. While they are useful to farmers contemplating long-term investments in their property, these programmes do not address the needs of growers who have trouble making ends meet from year to year. For these people, McCain and private banks are the only alternatives.

McCain has also been accused of 'locking-in' farmers through its pricing policies, which are said to encourage poor quality potatoes for which there is no alternative market. McCain's price is said to be so low that farmers must grow large volumes and cut corners in their cultivation and storage practices in order to break even. Their potatoes are then of such low quality that they cannot be used for anything but processing.

This seems to be changing, however. McCain had for many years encouraged quantity, rather than quality, among its growers. This was necessary to elicit sufficient production of Netted Gems, a variety not well suited to New Brunswick's growing season. This policy has changed in recent years; having raised production to sufficient levels, McCain is now aiming for higher quality. Whether or not all farmers will be able to adapt to this change remains to be seen. It is common knowledge that many farmers have done well on McCain contracts only by passing off rejects from potato acreage intended for other markets; if stricter inspection is the rule, this practice may no longer be possible. It is possible that a new type of contract farmer will become the norm if quality can be encouraged without affecting total production in the valley.

Other criticisms have been made of McCain, most of which are narrower in scope. The most basic is that the contract is one-sided; it offers protection to the firm, but not to the grower. One controversial clause in the potato contract allows the company to make up a grower's shortfall by purchasing potatoes on the market and billing the grower for them. This clause does not apply if the expected shortfall is reported to the company before November 1. Its purpose, according to the firm, is not to penalize growers whose yields were lower than anticipated; rather it is a sanction applied to farmers who renege on their contracts by selling contracted potatoes on the open market when the market price is higher.

Farmers with genuine shortfalls due to poor harvests are protected

by the November 1 provision; those whose shortfalls are the result of deterioration in storage after November 1 are not so protected. McCain says that a farmer in this situation would never be prosecuted; in fact, the company goes out of its way to take immediate delivery if a breakdown in storage occurs. Many farmers and other informants confirm this. One farmer did dispute the company's claim, however. He reported that one year a number of breakdowns occurred in the St. André area; the firm offered to accept the deteriorating potatoes only if the farmers agreed to sell all their non-contracted potatoes as well. (At that time, the market price was low but expected to rise.) McCain's response was as follows: when the firm offers to accept distressed potatoes, there is a tendency for farmers to try to sell *all* distressed stock (both contracted and non-contracted) and hold on to all their good stock. McCain requires farmers to sell proportional amounts i.e. if distressed non-contracted stock is offered for sale, then good non-contracted stock must also be sold.

McCain's general position regarding its contracts is that they are indeed tough contracts; their purpose is to provide clear protection against dishonest growers who try to take advantage of the firm. Honest growers need not fear, however; it is in their interest to allow the company a certain amount of discretionary power, since this power would never be used against them, but will often be used to assist. A more 'two-sided' contract might look better on the surface but would actually be harder on the growers.

Does the firm need the amount of discretionary power the contract gives it in order to protect its interests? It seems unlikely. Food processors interviewed in western Canada rarely resorted to legal action when a grower reneged on his contract; this was said to be expensive, uncertain, and generally damaging to goodwill. Instead, these firms simply refused to deal with that grower again and advised other firms to do the same. All firms interviewed were satisfied that blacklisting was an extremely effective sanction. (This is in an area where alternative crops and markets are numerous. For McCain, refusal to deal with a farmer would be an even stronger deterrent than it is in Saskatchewan.) The contention that the contract's toughness is purely a defensive measure necessary to protect the firm against unscrupulous growers must be eyed with some suspicion.

There are other ways in which the firm can exercise discretion in administering the contract. Variability of quality inspection is frequently encountered and can occur for several reasons. The firm may

be operating at capacity or be able to purchase supplies cheaply on the market; if so it may 'grade hard' to reject as much contracted produce as possible. In McCain's case, where the firm calls up contracted supplies through the year as required, this practice is presumably unnecessary; allegations that it occurred were not frequent. Second, an inspector might give poor grades unless offered a bribe. This practice was so widely alleged that there is little doubt of its common occurrence. It is an accusation which must be directed at the employee in question, however, and one would not expect the practice to be company policy. (It is not in the company's interest to accept substandard potatoes so that the inspector can get a free bottle of liquor.) The third and most serious possibility is that a 'troublemaker' (e.g. a politically active farmer) might have his loads unfairly graded. It is impossible to prove that such discrimination has actually occurred; the point to be made here is that it *could* happen.

This possibility results from two circumstances. First, grading is done by a McCain employee, not a government official, and it is done by eye. McCain resists the use of a standardized grading device known as a 'colorimeter' in its New Brunswick plants. Second, farmers are generally unwilling to call in government inspectors. While the farmer's right to do this is guaranteed in the contract, few growers make use of it. To call in a federal inspector is to risk the 'revenge' of the McCain inspector on the next load; soon the grower would have to request arbitration on every load, irritating the inspector as well as the McCain employee. While the contract's provision for federal inspection is a step in the right direction, the firm's (or its employees') discretionary power in this area will persist as long as grading is done by the company itself and not by independent inspectors.

Delivery dates are also a source of controversy. Growers store their potatoes on farm until they are 'called up' by McCain between September and June. The contract price rises 3.5% each month to reflect the cost of storage, which includes the following:

Direct costs of storage: heat, electricity, ventilation and insurance for a storage building.

Opportunity cost of capital.

Shrinkage of potatoes through moisture loss. (Shrinkage is 7% in the first three weeks and continues at a slower rate throughout the winter.)

Risk of deterioration. (This risk is not predictable but depends heavily on the condition of potatoes at harvest time.)

While most farmers say that the price differential for storage is adequate, their behaviour indicates otherwise. Farmers invariably prefer to sell their potatoes as quickly as possible, especially in a year when harvest conditions are poor. Again, the possibility exists that farmers, favoured by the firm for various reasons, will be given preferential treatment. This possibility arises most commonly when McCain experiences a sudden shortfall in input for the plant. It may then phone a grower and tell him to deliver a large load, perhaps his whole crop, in order to fill the gap. In such a case, the firm wants potatoes of assured quality and it wants them immediately. It will therefore call a farmer it has dealt with for years, one known for growing a consistently good product and who can deliver large volumes quickly. It will not seek out a number of small growers of unknown reputation and try to coordinate their deliveries. This leads to accusations of favouritism towards big farmers, those who are friends of the management, those who are not troublemakers, and so on.

The issue of favouritism brings into sharp focus the controversy over McCain's role in shaping the valley's potato industry. McCain's critics allege that the firm favours big farmers and is trying to drive out small ones, in order to take over their land and concentrate production in the hands of a few large, politically passive 'business farmers'. The firm contends that productive efficiency must be the sole justification for anyone to stay in farming; the firm's policies favour those who can produce high quality potatoes at low cost. Any farmer that can do so can do well with McCain; those who cannot and drop out of farming, use McCain as an excuse to hide their own failure. It is very difficult for an outside observer to evaluate this argument – certainly no farmer is going to admit his own incompetence. Furthermore, if large farmers are efficient *and* politically passive, the company has two motives for favouring them and the explanations of McCain and of its critics are consistent.

A third allegation regarding McCain's potato contracts is that they sometimes have strings attached. For instance, it has been said that a farmer must agree to sign a potato contract in order to get a pea contract. Alternatively, he may be required to buy McCain equipment or fertilizer. (One farmer said that the company presented him with an order for fertilizer along with a contract and asked him to sign both.) The firm denies that this has ever taken place; contracting and

fertilizer sales are entirely separate activities, conducted by different subsidiaries. Most farmers also deny having been pressured in this way. This may be another area in which the farmer's bargaining power is a factor: a grower who badly needs a contract could be a more likely object of pressure than one who has other alternatives. It is also alleged that in years when fertilizer is scarce, McCain contract growers will get the first chance at McCain fertilizer, a practice which is less objectionable than those referred to above. Access to scarce fertilizer would be an added advantage of contracting, not a disadvantage, as forced purchases are.

A final source of dissatisfaction among growers is company production. Some farmers feel that the land used by McCain to grow potatoes is an unfair bargaining device, a way of saying 'You can be replaced' to a farmer who is dissatisfied with the contract price. McCain has about 7,000 acres of cultivated land (Senopi, 1980, p. 43). Some is used to grow vegetables for processing; the firm grows 20% of its pea supplies and all of its beans and broccoli (McCain, 1976, p. 2). Some land is also devoted to potatoes, both for export and for processing. The exact percentage of processed potatoes grown on company land is not public information; a firm's spokesman set it as well below 5%.

According to public statements by the firm, this potato production is used to fill in shortfalls when contracted or open market supplies are short. However, an interview with the company's fieldman provided an explanation more consistent with farmers' accounts and with what is known about McCain's procurement practices. Several farmers said that McCain's own potatoes are taken directly to the plant in the autumn bypassing storage; since they are not stored, a procedure called 'top-killing' is unnecessary. (Top-killing makes harvesting easier and leaves the potatoes in a better condition for long storage.) The result is said to be a saving, on storage and top-kill, of about $2 a barrel. The firm can then cite its low production costs when questioned about low contract prices.

The company's description of this practice is consistent with the farmers' version, but not identical. The purpose of internal production, says the fieldman, is to start up the plant as early as possible. The company's potatoes are harvested early in September, before they are fully mature, and when they are still below average size. Some top-kill is applied to facilitate harvesting, though less than is normal. The poor yield more than offsets the saving on storage and top-kill, so that the net effect for the company is a loss, not an

advantage. The company's own production is processed before its suppliers have finished harvesting; it cannot, therefore be used as a means of price manipulation.

If McCain's internal production is as small as it says, it would indeed seem to be of little value as a threat against reluctant contract growers. On the other hand, the company's version has not been well disseminated. Most growers and observers of the potato industry are under the impression that McCain produces a substantial proportion of its potato requirements. It is this *belief*, accurate or not, which influences their behaviour. Dispelling these erroneous impressions might improve the firm's relations with local farmers, but it might also weaken its bargaining power. Allowing the misunderstanding to persist is perhaps the most efficient strategy of all – the firm can maintain production, and the expense associated with it, at a low level, while enjoying the bargaining advantages of a higher volume.

GROWER ORGANIZATION

The farmers of the St. John valley have not accepted their predicament passively – some of them have made efforts to organize and promote their collective interests. For the most part, their efforts have not met with great success. The purpose of this section is to examine some of the factors which have impeded or facilitated the process of organization and to explain the pattern of organization that has occurred.

During the 1950s and 60s, a number of efforts were made to establish marketing boards and agencies that would represent New Brunswick potato growers. These bodies were set up in accordance with the provincial enabling legislation, which allows producers to coordinate the marketing of agricultural products. From the farmer's point of view, these agencies suffered from two severe problems. First, they were not strictly producer organizations, since they also included shippers, grower/shippers, processors, and so on. Second, they had a history of poor management and corruption and each was voted out within a few years of its inception. The failure of these early efforts left farmers suspicious of the motives of subsequent organizers and sceptical about the value of their proposals.

In 1969, the National Farmers Union (NFU) began to operate in New Brunswick, finding the bulk of its members among potato growers. This group is a nation-wide association of farmers which

favours fundamental change in Canadian agriculture. The NFU has a distinct ideology with long range goals; it tries to involve non-producers by working with consumer and church groups; and it uses press conferences, demonstrations, pamphlets and other popular media to state its case. Its leaders feel that the problems of Canadian agriculture are extensive and that *ad hoc* measures addressed at specific problems will not be effective.

In each province, the NFU has campaigned strongly against the provincial marketing boards. These boards handle the marketing of most agricultural products, the major exception being beef. Some boards have the power to set prices and production quotas, but most do not. The great majority of these bodies belong to the Federation of Agriculture in each province.

The NFU believes that provincial marketing boards are not an effective means of raising or stabilizing producers' incomes. They are said to be under the control of the provincial governments, giving producers only an illusion of power, and their authority is too limited. The Federation, on the other hand, says that it works within the limits of the enabling legislation. According to the Federation, Parliament allows marketing boards certain powers but does not wish to encourage inefficiency or contribute to high food prices. It will not, therefore, give farmers monopolistic powers denied to other segments of society. The NFU, says the Federation, wishes to exceed these limits at the expense of the consumer.

In general, the Federation regards the Union as a left-wing fringe group seeking to bring back a form of farming incompatible with efficient use of resources. The Federation views farming as a business, in which managerial skill is as important as farming skill, and in which romantic notions about the family farm cannot justify inefficiency. The NFU regards the Federation as a reformist trap, a means by which producers are divided, bought off and controlled by provincial governments. According to the NFU, the 'business farming' philosophy may produce cheap food in the short run but will result in environmental degradation and corporate control in the long run.

Having established the basic character of the two types of organizations, let us examine the roles they played in organizing farmers during the 1970s. The first thing to be pointed out is that the initiative behind the formation of the current New Brunswick Potato Agency (NBPA) did not come from among the farmers themselves. Government initiatives have been very important. In 1969, the provincial

government tried to encourage an agency that would include non-producers, but without success. In the mid-seventies, the Federal Minister of Agriculture made it clear that New Brunswick potato farmers could not expect federal stabilization payments to continue unless a provincial marketing agency of some sort was formed.

The organizing drive which resulted in the NBPA's formation seems to have been largely the work of one man – James Patterson. Patterson was a potato producer at the time, though he subsequently left farming, selling his land to McCain. He was also an employee of McCain Foods for several years in the marketing department. He says that frustration with rising input prices and static contract prices led him to take action. Initially many growers were wary of reprisals by McCain but when it became apparent that the company was not going to interfere, farmers began to sign up. Most of the initial support came from contract growers, particularly those in Carleton county. (This is the southern half of the valley, where McCain's first plant was started and where Jim Patterson lives.)

In 1976, the provincial government held a referendum among New Brunswick potato growers to find out how much support existed for a marketing agency. About 60% voted 'no' and the proposal was defeated. A breakdown of voting revealed that support for the agency was not evenly distributed; much of the opposition had come from the northern part of the St. John valley. Subsequently, a number of local referenda were held, in the following areas:

(1) Carleton county
(2) Victoria/Madawaska (Francophone) } St. John valley
(3) Victoria (Anglophone)
(4) 'rest of New Brunswick' (peripheral potato areas)

The first local vote was held in Carleton county and resulted in a strong 'yes' vote. A local marketing agency was then set up for Carleton county growers. The next vote was taken among the few potato growers not in the St. John valley and had similar results. The two local agencies were then combined to form the Western New Brunswick Potato Agency. Next, a proposal was made to provide the Francophone growers with a separate agency; this was also implemented following a vote. This left only the remainder of Victoria county without an agency. A referendum was held there and defeated; about 70% voted 'no'.

On May 23, 1980, the provincial government decided to override

the opposition of Victoria growers. It disbanded the local agencies and established a province-wide agency by fiat; membership is compulsory for all potato growers. Out of, roughly, 800 New Brunswick potato growers, about 100 have refused to register, in spite of the threat of fines and/or jail sentences. The legislation also requires McCain to bargain with the agency over contract prices and terms and allows the agency to set minimum prices to shippers on an *ad hoc* basis.

The most interesting aspect of this issue is the different voting behaviour of Victoria and Carleton counties. It is puzzling that Carleton county farmers supported the NBPA, while Victoria opposed it, in spite of the basic similarity of the two areas in economic terms. The explanation seems to lie in the different 'political cultures' of the two counties.

Carleton county is the home of the McCain family and the site of its first french fry plant. This is where the firm's social influence is strongest. It is also the home ground of the provincial Premier and there may be a feeling that he will take care of his constituents as long as they work within the system. Ethnic/cultural factors are also frequently mentioned by local farmers. The people of Carleton county are largely of English descent and many of their ancestors were United Empire Loyalists. (The Loyalist connection is said to show a tradition of deference to authority.) The residents of Victoria are largely French Canadians and people of Danish or Scots extraction; they are said to be more excitable, less impressed by authority, and generally 'fighters'. Carleton folk, it was said time and again, are more respectful of authority and dislike disruptions; they prefer to go through proper channels in an orderly way, rather than 'make trouble'. They also tend to be very religious and morally conservative.

While some of these characterizations may simply be local stereotypes, many of these traits do surface in conversations with local farmers. It is very common for a Carleton farmer to say that he had at one time sympathized with the NFU but became disillusioned with their disruptive tactics. An NFU demonstration that blocked the Trans-Canada Highway for several days and the NFU takeover of an NBPA meeting were cited as examples.

One should not infer that all farmers are strong supporters of one organization or another; a great many want no part of any farmers' group. Some are quite satisfied with their dealings with McCain and prefer to maintain a direct relationship with the firm. They feel that their skill and reputation as growers, their seniority, or their personal

relationships with the McCains will serve them better than membership in a collective bargaining unit. Although they are very pessimistic about the future of the fresh market, the problems of this sector are seen as intractable. Many farmers resent the provincial government's imposition of the agency; some regard it as simply a tax for which no benefits are received. (The NBPA takes a levy of five cents on each barrel marketed; for a medium-large grower this could amount to $1,000 a year.) Some are wary of corruption in a marketing agency, expecting history to repeat itself. Others are afraid that it will start to 'tell farmers what to do', controlling what and how much they grow. (Supply management has never actually been discussed as a possibility, either by the NBPA or the NFU.)

The competitive nature of the fresh market also undermines support for a potato marketing agency. Although their numbers have declined, there have always been a great many small grower/shippers who sell their own crop plus those of other farmers. Their superior market information often puts them in a position of conflict with their suppliers. (If the market price is expected to rise in a month, the shipper may try to mislead growers and persuade them to sell to him now.) The presence of this mixed category has been a considerable problem for those who have tried to organize producers. Finally, individual growers have also been cut-throat competitors, undercutting their neighbour's price to make a sale. A great deal of enmity and suspicion has been generated in this way and many growers are sceptical of the very idea that farmers could ever cooperate.

The competitive and volatile nature of the potato industry also contributes to individualistic attitudes. Many fortunes have been made in the industry over the years and many growers hope to make one of their own. They are waiting for the 'perfect year', when high prices and high yields will produce a jackpot. Regulation of the industry might provide more stability and adequate incomes but it might also eliminate the jackpots.

Another factor which has impeded organization is the recent influx of Dutch immigrant farmers, most of whom are hostile towards any efforts to mobilize farmers. For one thing, they are prosperous enough that they can treat farming almost as a hobby. They can sell their land in Holland for perhaps a million dollars (land prices being far higher than in Canada), buy a place in New Brunswick for much less, and have a sizeable sum left over. They are not in the same financial straits as most of their neighbours and see little reason to protest. Furthermore, they come from a country where agriculture is

highly regulated. Dissatisfaction with this system was what led many of them to leave Holland in the first place and they oppose any changes that would move the New Brunswick potato industry in the same direction.

McCain's role in the development of the NBPA is also worthy of note. The firm has long resisted collective bargaining and many farmers expected interference from the firm when they began to campaign for a marketing agency. This interference was not forthcoming and McCain is presently on record as supporting the NBPA.

The most plausible explanation for the firm's attitude is that it does not regard the NBPA as a serious threat. First, although the firm must negotiate the terms and prices of each year's contract with the agency, it still retains considerable autonomy. The firm's contracted/spot market mix is not affected, nor is the choice of whom to contract with, or how much, or how the contract is administered. Second, compulsory arbitration is imposed if the firm and the agency cannot come to an agreement. It is likely that the arbitrator would examine current North American potato contracts to establish a guideline, and would not grant an increase which greatly exceeds the North American average.

On the other hand, the agency provides some public relations and management advantages. McCain has been embarassed by several journalistic 'exposés', each of which focused on the weak bargaining position of the New Brunswick farmer (*The Fifth Estate*, 1976; Stewart, 1975; *Macleans*). The firm may feel that an agency like the NBPA would improve public relations and undermine the more radical efforts of the NFU, without seriously affecting business. Furthermore, the NBPA has some value to the firm in coordinating farmers and providing a convenient liaison. (For instance, the NBPA and the firm have collaborated in disinfection programmes.)

CONCLUSIONS

The past twenty-five years have seen important changes in the New Brunswick potato industry. Traditional markets have all but disappeared and growers have adapted their farming practices to the needs of the processing industry. McCain Foods has played a major role in promoting these changes and today there are few aspects of life in the St. John valley which the company's policies do not impinge on.

Of the issues raised in the introduction to this book, there are several which the McCain case sheds light on. First, unlike most of the cases surveyed, this agribusiness has clearly encouraged specialization. Farmers have devoted larger percentages of their land to potatoes in order to meet the firm's demand for high volumes of production. Concurrently, farm machinery has become more specialized to harvest potatoes for processing. Farms have become fewer, more specialized and more highly mechanized.

Second, the case illustrates the ways in which mechanization and specialization can lead to debt and the narrowing of the farmers' options. Debt need not be contracted with the agribusiness; in a situation of monopsony, even loans from banks can effectively lock the farmer into growing for the processor.

Third, social differentiation has occurred among contract growers, with those best able to meet the company's requirements expanding their acreages and incomes. To date, the incentives have been for large volumes of production. As average farm size increases and McCain's preferred potato variety (Netted Gems) becomes widely accepted, a shift in emphasis from quantity to quality is likely. How farmers respond to these new demands remains to be seen.

Finally, the firm has been accused of manipulative practices. These, along with the broader changes in farming practices induced by the processing industry, have led a number of growers to protest and to organize politically. The organizational efforts and the firm's efforts to control them have led to the same outcome that occurs in most of the cases examined in this book: the establishment of an organization which acts as an intermediary between the firm and its growers. The NBPA represents farmers' interests on matters of short-term and relatively limited importance; it also serves to enhance the coordination and communication function which firms find important when dealing with a multitude of growers.

An assessment of the broad rural development effects of McCain is at once facilitated and made difficult by the long time-span over which they occurred. The difference between the St. John valley twenty-five years ago and the valley today is striking. The changes occurred gradually, however, and as noted previously, the direction of change is consistent with that taken by Canadian agriculture.

One way to assess the broad impact of McCain would be to argue the counterfactual: what would the St. John valley look like today if McCain had not set up a processing plant in Florenceville? It is most likely that the region would be much less prosperous. Most long time

observers of the Maritime industry argue that New Brunswick was beginning to lose its edge in the table potato market before McCain appeared. Changes in labour markets would have led to mechanization eventually and without the old 'diggers', New Brunswick's rocky soil would have become an increasingly serious impediment in trying to produce table potatoes. Without a processing firm, potato farming would likely not be viable in New Brunswick today and employment in the plant and ancillary industries would be foregone.

The likely effect of McCain's entry was to accelerate and modify the process of agrarian change in the St. John valley. Without McCain, fewer changes would probably have occurred in the 1950s and 60s but at the expense of a crisis in later years. Agribusiness appears to have this capacity to induce rapid structural adjustment to changing economic conditions more effectively than spontaneous responses in an uncoordinated market.

5 Mumias and KTDA, Kenya: Public Sector Participation

Two large-scale schemes in Kenya, financed and managed by a combination of public and private entities, have attracted considerable attention. The Mumias Sugar Company and the Kenya Tea Development Authority process and market the output of a total of nearly 200,000 small farmers. Both have been in continuous operation for more than fifteen years and during that period have considerably expanded the number of smallholders they serve. Because of their apparent success, Mumias and KTDA have often been cited as 'models' for smallholder agricultural schemes in Africa. As governments, particularly those in Africa, re-examine the role of the public and private sectors in agricultural marketing as part of their 'policy dialogue' with aid donors, the lessons of KTDA and Mumias are becoming increasingly relevant.

THE MUMIAS SUGAR SCHEME

The Mumias Sugar Company in western Kenya is a multipartite arrangement principally involving Booker Agriculture International (BAI), the Commonwealth Development Corporation (CDC) and the Government of Kenya. The World Bank has also contributed to the financing, particularly in the early stages. Mumias began with an 19,750 acre nucleus estate in 1972 (now 8,400 acres); it now processes cane from 33,000 outgrowers, who provide about 90% of the plant's throughput. The company employs 5,000 full-time and 9,000 part-time workers, including field and factory operations (Williams and Karen, 1985, pp. 36–7).

Located in a relatively remote and undeveloped region of Kenya, the scheme has had a significant impact on the area. In fact, it has been widely cited as an agribusiness success story, one which is both profitable and beneficial to small farmers. Numerous studies have assessed the project's impact; they vary in depth, timing and point of view but together provide one of the most complete pictures we have

of a well established agribusiness project. This chapter draws on those studies to assess the local impact, growers' response, and policy implications of Mumias.

BACKGROUND

Kenya straddles the Equator in East Africa, encompassing a range of altitudes from sea level to 5,199 metres. Most of the country is arid to semi-arid, but some parts of the highlands receive abundant rainfall. Western Kenya, where Mumias is located, has the ecological conditions suitable for sugar cane, including 1200–1500 mm. of evenly distributed rainfall per year, temperatures that do not drop below 20 degrees Centigrade, and relatively flat land suitable for mechanization (Buch-Hansen, 1980b, pp. 21–3). In this region, a single planting of sugar cane will produce three crops: a 'plant' crop which takes about 24 months to mature and two 'ratoon' crops of 18 months each.

Prior to 1972, the Mumias district was one of the least developed in Kenya. Most households grew millet, corn and sorghum for subsistence and the poor soils were unsuitable for most cash crops. Agriculture was generally insufficient to sustain a family and non-farm employment was an important source of income. A limited amount of sugar cane was grown to supply some small traditional-technology mills. Agrarian social structure could be described, without too much oversimplification, as predominantly peasant. Most households owned or had traditional tenure to small plots of land; landlord–tenant relationships, plantations, cooperatives or modern farm entrepreneurs were relatively unknown compared to some of the other cases examined in this book.

THE MUMIAS SUGAR COMPANY

The Mumias Sugar Company (MSC) was established in 1972 on the initiative of the government of Kenya. The government was motivated by two factors: first, a desire to reduce Kenya's dependence on imported refined sugar, given the item's importance in the food-basket of most households; and second, a desire to promote development in one of the country's most disadvantaged regions. The latter motivation was tempered by the realization that suitable ecological and economic conditions were necessary for a successful scheme.

Sugar projects that lacked these characteristics had failed in other parts of Kenya. The government and the Commonwealth Development Corporation (CDC) therefore encouraged Booker Agriculture International (BAI) to undertake a feasibility study of the proposed project. BAI had considerable experience of sugar production in other countries and was increasingly interested in moving out of the risky and politically sensitive area of crop production and into the sale of management and technical services.

The feasibility study proposed the purchase (from local peasants) of about 8,000 acres for the nucleus estate. This would be supplemented by a gradually increasing quantity of cane purchases from outgrowers. Three aspects of the feasibility study and start-up phase were notable for their subsequent repercussions. First, the price paid by MSC for land, which was supposed to permit the sellers to purchase new property elsewhere, was set at the market rate; no provision was made for the predictable increase in land prices as approximately 1,000 new buyers entered the market. Assessments of the value of crops and buildings also tended to be subjective and/or susceptible to manipulation, and widespread chicanery led to the introduction of new assessment criteria midway through the process. Second, those displaced were given cash but no assistance in relocating or adjusting to their new circumstances. This was symptomatic of a third and more general feature of this phase: although MSC was supposed to serve as a 'pole of development' for a poor region, the feasibility study paid no attention to how these developments might be achieved.

The basic structure and operating practices of MSC are largely unchanged today from 1971. BAI holds 5% of the company's shares (at government's insistence) and manages the factory, the nucleus estate and the outgrower operation. In return it receives dividends; a commission on sales of sugar (the percentage is set on a sliding scale to encourage higher output), and a fixed fee for expatriate salaries and related overheads (Goldberg and McGinty, 1979, p. 551). This remuneration structure is designed to encourage both output and efficiency.

The government is involved in a number of ways. It holds 69% of MSC's shares; supplies credit through the Agricultural Finance Corporation (AFC); sets prices on inputs and outputs through the Kenya Sugar Authority (KSA); and controls the distribution of sugar within the country through the Kenya National Trading Corporation (Manundu, 1985). Pricing policy has been crucial in maintaining the

scheme's profitability. As part of a strategy to make Kenya self-sufficient in sugar, the government has encouraged local production by providing tariff protection, and setting prices well above world market levels. This amounts to a subsidy to the domestic sugar industry, paid by Kenyan consumers, without which much Kenyan sugar production would be unprofitable (Sharpley, 1984).

CDC's contribution to the project seems to be largely financial, though it does own 12% of MSC shares and sits on the Board of Directors of the Mumias Outgrowers Company (MOCO). The overall equity structure of MSC is as follows (Holtham and Hazelwood, 1976):

Government of Kenya	69%
Commonwealth Development Corporation	12%
Bank Agriculture International	5%
Kenyan Commercial Bank	9%
East Africa Development Bank	5%

The nucleus estate currently supplies about 10% of the factory's throughput; the remainder comes from 33,000 outgrowers under contract. The average cane area per outgrower has been estimated at between one acre (Barclay, 1977, p. 236) and four acres (Holtham and Hazelwood, 1976). Barclay's study employed the most extensive survey of all those cited in this chapter; he found the following average land use pattern for outgrower farms (Barclay, 1977, p. 236):

average area in cane: 1.1 acres
average area in all other crops: 1.84 acres
total farm area: 13.16 acres.

The eligibility requirements for admittance to the outgrower programme complete this sketch of grower characteristics (Barclay, 1977, pp. 218–9). To enter the programme, a farmer must:

(a) cultivate land within 8 miles of the factory
(b) be a registered owner of the land
(c) have suitable soil for cane
(d) have land accessible to tractors
(e) grow a minimum of 3 acres of cane and 2.5 acres of food crops and/or pasture
(f) form part of a contiguous plot of cane land at least 15 acres in area (i.e. several neighbours must also grow cane).

Some of these criteria are more easily enforced than others and non-compliance with (b) and (e) is common.

MANAGEMENT-GROWER INTERACTION

The MSC contracts are among the most extensive described in this book. They specify most important aspects of the production process and, furthermore, assign responsibility for a high proportion of activities to the company. The contract stipulates the producer price (which is set by the Kenya Sugar Authority) and obligates the company to buy all production from the contracted area. Payment takes place at harvest time and growers can choose to receive cash or a cheque. Mumias sells fertilizer, pesticides, herbicides, extension and farm machinery services, the cost of which is deducted from crop payments. The company cuts and harvests the cane; growers do the weeding. Many growers also prepare their land and plant their cane, though some prefer to have the company do it for a fee. Family members supply much of the labour for weeding, but many outgrowers hire workers to do it. Management has the right to inspect the fields and to undertake tasks it believes are not being performed adequately, charging the growers for this service. The application of chemicals is tightly specified in the contracts, though it is difficult for the company to control. The 'illicit' resale or use of fertilizer on other crops is widespread. Because outgrowers' plots are in blocks of 15 acres; because their housing is often separate from the sugar fields; and because so many production tasks are performed by the company or hired labour, the casual observer gets the impression of a plantation, rather than a project involving independent farmers.

IMPACT

As in most agribusiness projects, the impact of Mumias has been mixed. Some groups have gained, others lost; most households have experienced both beneficial and harmful effects; and different analysts have interpreted or given different emphasis to the same set of observations. As with McCain in New Brunswick, the Mumias project's long history and extensive coverage have produced a series of effects which extend beyond the distribution of profits between grower and processor to affect community and regional development.

Income

By the narrowest indicator, Mumias has had a positive impact. Every study has shown positive income effects and most estimate the income levels of outgrowers to be two or three times the average agricultural wage in the area (Barclay, 1977; Holtham and Hazelwood, 1976; Buch-Hansen, 1980b).

Investment

Most observers have been disappointed in the degree to which income has been productively invested. The feasibility study saw Mumias as a pole for development. The first manifestation of this was to be increased food production to meet the demand of workers hired to man the factory and nucleus estate, and to harvest outgrowers' cane. In general, this expansion has not occurred and local food production does not meet demand. The reasons are not entirely clear but one cause seems to be the extremely poor soil which makes increased crop production uneconomic at current prices and with current technology (Holtham and Hazelwood, 1976, p. 155).

Labour shortages also seem to be a contributing factor. With labour productivity and wages generally so low in African agriculture, it is common for rural–urban migration and off-farm employment to compete heavily with on-farm labour. In Mumias, female labour is heavily occupied with household duties and wage labour for outgrowers; children are in school, as evidenced by the investments in schooling noted below; and men prefer off-farm employment.

Barclay's survey found the most common expenditures by outgrowers to be food, clothing and school fees with little investment in land or farm improvements. A more recent study of a very similar scheme in the South Nyanza area of Kenya produced similar findings. Kennedy and Cogill (1987) found income from sugar to be spent principally on four items: housing, school fees, cattle, and debt repayment. In the Kenyan sugar schemes, growers receive large lump sum payments at harvest time; it had been thought that these 'lumpy' payments would facilitate investment, though this was not the main reason for the choice of payment system. Barclay found that this effect did not occur. Most outgrowers spent their receipts almost immediately and few even kept bank accounts. To a large extent, informal financial markets simply adapted to the introduction of sugar contracts. Households, tended to increase consumption and

finance expenditures through loans from relatives and merchants; the lenders demand repayment at harvest time, leaving little cash for investment purposes.

If household investment has not been significant, neither has collective investment. Cooperative community ventures such as school construction, clinics and cattle-dips have not been successful. While some projects had been started before Barclay's study, none were completed and payments were in arrears. Barclay attributes this to a long history of ethnic friction and a lack of interest in cooperative activity. Holtham and Hazelwood (1976, p. 155) similarly note that Abaluhya social structure is not conducive to certain kinds of co-operative effort.

Entrepreneurs have not been much more active as investors than outgrowers or communities. While some merchants have set up small shops, foodstands and the like, the scope for such activities is limited by the enclave nature of the Mumias scheme. The project provides so many of its own inputs and services that there is little scope for local suppliers. Barclay mentions some of the project's ancillary activities (1977, pp. 380–2):

- gasoline station
- repairs to vehicles
- importation of all spare parts of machinery
- retail shop for employees
- recycling of waste products for fuel and fertilizer.

Other services are supplied by firms based outside the district:

- engineering
- transport
- purchase and delivery of food for managerial staff.

As a result, local investment has been steered away from agriculture-related activities and into less visible areas. School fees do not provide such immediate or visible pay-offs as machine shops but may in the long run provide farm households with opportunities for income diversification in the long run. Importing and selling consumer goods to satisfy increasing local demand is often done by very informal, nearly invisible family enterprises. It is entirely possible that many of these businesses are simply not visible to the casual observer and have been underestimated in descriptions of the spin-off

effects of Mumias. The scheme has not become the 'pole' of development' that its designers hoped for, but some development effects have occurred.

Displacement

The establishment of the nucleus estate displaced about 1,000 households. At the time of Barclay's study (1975), this was by far the most obvious welfare effect of the scheme. As with the provision of investment opportunities (or lack thereof), the compensation and adjustment process for the displaced families was carried out in a relatively unplanned fashion. No resettlement scheme was established and there were no plans to give the displaced households preferential access to jobs on the nucleus estate or sugar contracts.

In spite of the lack of planning or assistance, over 90% of the displaced families surveyed by Barclay were quite successful in purchasing land with their cash payment. Some bought other goods as well, most commonly bicycles, radios and livestock (Barclay, 1977, p. 208). Most significantly, however, few became sugar outgrowers. In order to receive a contract, a grower must hold legal title to his land. Most of the ex-Mumias residents found it difficult to work their way through the legal procedures needed to get title, or to bypass the requirement, as many of the more knowledgeable growers were able to do. The non-title group was effectively excluded from Mumias; some profited from their land sales and the rest seemed to have done reasonably well, but the positive impact was purely financial and was partially offset by the disruption of relocation. Other potential impacts – learning effects, changes in family roles, and so on – were not significant for this group.

Technology Transfer

Assessments of Mumias' learning effects vary. Holtham and Hazelwood (1976, p. 154) cite the illicit use of fertilizer by outgrowers on other crops as evidence of technology transfer: farmers have learned the value of fertilizer and are making their own assessments about where they will get the highest marginal return from its application. However, more recent observations suggest that cane fertilizer is now bartered for food grown elsewhere in Kenya and used outside the scheme. Beyond Holtham and Hazelwood's early observation, which is itself open to interpretation, there are few indications that tech-

nology transfer has been an important feature of the project. The contract is so tightly specified and, more important, so many functions are performed by the project authority, that there is little opportunity for growers to learn or apply new techniques.

Nutrition

The only data available on nutrition comes not from studies of Mumias but from the report from Kennedy and Cogill (1987) on a similar scheme in South Nyanza. Since sugar produces higher returns to labour and is less risky than maize, the area's principal food crop, the establishment of a sugar scheme has led growers to shift a significant proportion of their land from the food crop to the cash crop. This has also resulted in significant income increases, but a relatively small percentage of income increment spent on food purchases. The net effect has been only a slight increase in the caloric intake of outgrower households. In addition, a high proportion of the income earned by women as wage labourers on sugar farms is spent on food (Kennedy and Cogill, 1987). Unfortunately, the nutritional status of the most vulnerable group within the household – pre-school children – has not increased significantly in South Nyanza.

Both Barclay and Kennedy and Cogill highlight the importance of the payment system. Infrequent 'lumpy' payments appear to lead to less expenditure on food than small and frequent payments, though the availability of informal credit to buy food may reduce this effect. Finally, nutritional benefits are reduced when sugar payments go to men, since women generally bear the responsibility for food purchases. It also appears that receipts by women are more likely to be spent on food for pre-school children (Kennedy and Cogill, 1987).

Changes in Household Roles

Mumias' principal impact on household roles was alluded to in the previous section: while MSC hires gangs of male labourers, the workers who respond to opportunities for employment by outgrowers in weeding work, tend to be female, perhaps because the male outgrowers fear a loss of prestige by working for other outgrowers. This has considerably increased female access to employment and income; the new source of income has, in turn, affected welfare within the household, particularly nutrition. The impact has been limited by Mumias' policy of making sugar payments to the house-

hold head, normally a man. In female-headed households, household expenditure and nutrition patterns differ noticeably from those in male-headed households. Were company policy in this matter to change by allowing payments to female farmers in male-headed households, the social impact of the project would be magnified.

Social Differentiation

With outgrower incomes of two to three times the average agriculture wage-level in the region, it is clear that differentiation between outgrowers and non-outgrowers has occurred. The process of differentiation within the population of outgrowers seems to be much less marked. According to Barclay (1977), such a process was underway before the establishment of Mumias, as traditional land use rights gave way to individual land tenure. Polarization of landholdings was limited by ecology and markets, however; with such poor soil conditions, additional land could not be made to produce profitable crops.

The establishment of Mumias changed this situation. For one thing, as Barclay hypothesized, access to sugar income could allow poor households to hold on to their land. Previously, land sales occurred most commonly when subsistence crop production and off-farm employment were insufficient for survival. Mumias appears to have stabilized the lower strata of peasant farmers and allowed them to persist. It can also be argued that the company takes responsibility for so many production tasks that little scope remains for more skilled growers to profit from their skills.

GROWER ORGANIZATION

In Mumias, spontaneous collective action by growers has been conspicuous by its absence. Apart from a few incidents noted below, there have been few organized protests and the organization which represents farmers, the Mumias Outgrowers Company (MOCO) was formed at the initiative of Mumias management, not the growers. This lack of collective action has been explained by both Barclay and Holtham and Hazelwood as stemming from the local political culture.

The management of Mumias, like that of many agribusiness firms, saw advantages in the formation of an organization to mediate

between management and outgrowers. In 1975, it established the Mumias Outgrowers Company to carry out the following functions (Goldberg and McGinty, 1979, pp. 557–8):

(1) to promote and represent the growers of sugar cane supplied to MSC who become members
(2) to negotiate on their behalf
(3) to provide financial credits for the production of cane
(4) to provide or procure advice and services and to enter into agreements with MSC
(5) to purchase supplies
(6) to borrow, lend, and give guarantees for money in connection with cane growing
(7) to remunerate for services and to pay out funds for expenses
(8) to establish provident funds and associations to benefit members

While MSC continues to control the cane-cultivation and cane transport operations, MOCO concerns itself with farmers' accounts and credits; the investigation of farmers' complaints; negotiations between farmers and MSC if required; and publicity aimed at improving outgrower performance.

MOCO's Board consists of:

– four grower directors, elected bi-annually from the four regions of the outgrowers' area
– three government directors
– one CDC director
– one MSC director.

Only a few incidents of organized conflict between growers and management have been recorded, and these do not seem to have involved MOCO. In 1979, outgrowers, led by a group of prosperous farmers, protested against increases in transport charges and threatened to stop deliveries (Mulaa, 1981, p. 94). Shortly after, growers accused Mumias of accepting non-contracted cane from outside the area, delaying the harvest of contracted cane in so doing (Mulaa, 1981, p. 94). Accounts of the latter differ, however; Graham and Floering report that the firm was under pressure from *outgrowers* to accept cane for which they did not have contracts (Graham and Floering, 1984, p. 126–7). The Kenyan government intervened,

compelling Mumias to accept the additional cane, and creating confusion as to whether the delayed harvests for some growers were the results of the company's actions or the government's response.

SUMMARY

Mumias brings into question the criteria by which agribusiness schemes should be evaluated. By the simplest criterion – income effects – the project has clearly been a success. One wonders if the full potential of the project has been tapped, however, or if less cumbersome ways to provide the same income could have been provided. The production system is so highly centralized that there is little advantage to the outgrower system. Smallholder production has not provided technical economies in production; nor has it provided many opportunities for spin-off effects and broader rural development.

KENYA TEA DEVELOPMENT AUTHORITY (KTDA)

The Kenya Tea Development Authority (KTDA) is an autonomous corporation responsible for crucial aspects of the production and marketing of tea, Kenya's second largest export. Financed by external lending agencies and the Kenyan government, KTDA has dealt with small tea growers for over twenty years; like Mumias, it has been cited as a successful scheme combining profitability with benefits to smallholders. Though less extensively studied than Mumias, enough information is available to permit an assessment of the scheme's impact and the factors that have influenced it (Buch-Hansen, 1980a; Lamb and Muller, 1982; Swainson, 1986; Stern, 1972; Lele, 1975). Of these, Lamb and Muller's account is the most complete and forms the basis of much of this section.

KTDA had its origin in the Swynnerton Plan of the former colonial government, which designated tea as an export crop for smallholder production and established the Special Crops Development Authority to promote tea and other crops (Swainson, 1986, p. 41). In 1964, a month after independence, the SCDA became the KTDA. It is an autonomous commercial enterprise financed essentially through non-

government sources. Its first and largest source of capital was CDC, though the World Bank, the West German government and other agencies have also provided loans. Loans from the government of Kenya have amounted to less than 20% of the total (Lamb and Muller, 1982). The agency's operating costs are covered by a levy or 'cess' deducted from tea payments to growers. As a condition of the first CDC loan, there is no export tax on tea.

KTDA purchases tea from Kenya's 150,000 tea growers. It also provides extension (technical crop advice), distributes planting material, and operates thirty-nine tea processing factories. Its Board of Directors includes members of KTDA management, the government of Kenya, external lending agencies and tea growers' organizations. Tea growers also own shares in KTDA factories; about 10% of KTDA growers have purchased shares.

Tea is grown in the west of Kenya around Kericho and Kisii, and in the districts around Mt. Kenya – Nyeri, Kirinyaga and Embu. Kericho is the major production zone. These areas lie at a higher altitude than Mumias and have colder temperatures and heavier and more constant rainfall. Conditions are ideal for tea growing and Kenya enjoys a reputation for being a high-quality producer. The Kericho area has a relatively high population density (232 persons/square mile in 1979: FAO, 1984) and is characterized by a combination of smallholdings and tea estates. Rain-fed maize is the principal staple crop of the region but beans, millet, wheat, barley and livestock are also produced. While tea is the most profitable cash crop, it has not displaced the food crops: a 1979 survey of the Kericho district found 18,000 acres planted to maize *vs.* 3,120 acres to tea (FAO, 1984, p. 48). Nor have all smallholders entered tea production; the same survey found non-tea smallholders outnumbering tea growers two to one.

MANAGEMENT–GROWER INTERACTION

KTDA is designed to provide tight control over all important aspects of tea production and marketing, even those it does not carry out itself. In practice, control over production has been exercised most effectively through pricing policy; efforts to directly supervise production practices have not been given heavy emphasis nor achieved great success when tried. The result has been tea of consistently

high quality which fetches premium prices in international markets. Growers receive planting material from KTDA nurseries and technical assistance from extensionists seconded to KTDA from the Ministry of Agriculture. Production tasks are the responsibility of the grower and are carried out by family or hired labour; unlike Mumias, KTDA does not perform such tasks as harvesting. This largely reflects the greater suitability of tea for smallholders; harvesting, for example, is carried out throughout the year and requires skilled pluckers to remove only the top two leaves and a bud.

Plucked tea is delivered by growers to inspection stations, where the leaf is publicly weighed and assessed for quality. Growers receive two payments: a monthly payment based on the quantity delivered the previous month and an annual payment that reflects the price received by KTDA for the year's sales in world markets. The latter depends largely on quality. However, since quality is affected by processing as well as production and the quality 'bonus' is paid to all growers, there is an obvious danger that the payment system will not provide adequate incentives to farmers. Two factors offset this: public leaf inspection and the attendant peer pressure to deliver good tea, and grower representation and shareholding in KTDA and its factories.

Some features of KTDA's relationship to its growers have changed with time. Originally, tea plots were limited to 0.44 acres; this was later raised to one acre in order to permit economically viable plots. Farmers had not found it worthwhile to harvest and transport such small quantities and, in fact, a great many evade the one acre limit. Smallholder tea production in Kenya increased dramatically, from 1,200 to 30,000 tonnes between 1965 and 1980; the proportion produced by smallholders and marketed by KTDA increased from 6% to 32% (Lamb and Muller, 1982, p. 21).

Acreage limits are no longer strictly enforced; seedlings are more widely available than before (through resale or illicitly from extensionists) and the scheme no longer finds it feasible to strictly control planting. In spite of this, there has not been a noticeable tendency for successful growers to accumulate large holdings. In this densely populated area, there is little unused land for sale; custom discourages commercial transactions in land; and the monthly tea income allows small growers to avoid 'distress' sales. The result has been relatively little differentiation.

IMPACT

Income

Every study of KTDA has found positive effects on smallholders' income, with average net receipts well above the average for the region. There is also obvious physical evidence of prosperity, for example in housing standards. Buch-Hansen found the distribution of income among tea growers to be somewhat unequal (p. 33). He sees the possibility of further differentiation in the expenditure patterns of outgrowers. The most common expenditures were school fees and 'matatus' (low cost transport that can be used for taxi hire). Among the growers with higher incomes, however, there was a greater tendency to invest in land, to buy shops and matatus and to hire agricultural labour. Buch-Hansen refers to this group as an 'incipient capitalist class'. The hiring of labour has had a significant employment effect since, on average, each outgrower hires three pluckers; given the continuous nature of the harvest, this employment is not seasonal (FAO, 1984).

Nutrition

Outgrowers generally grow significant amounts of food crops. Buch-Hansen found outgrowers in the Buret area to be essentially self-sufficient in food and to use little of their cash income for food purchases. FAO found the nutritional status of children in the Kericho area (as measured by height-for-age and weight-for-height ratios) to be somewhat better than the average for Kenya but did not detect a significant difference in this respect between Kericho smallholders who grew tea and those who did not (FAO, 1984, p. 54). Nor was there a relationship between income and nutrition.

The lack of significant nutritional differences between growers and non-growers of tea, in spite of the growers' higher income, is consistent with Buch-Hansen's finding that little tea income is spent on food. FAO concludes that it is not lack of income or availability of food that determined these nutritional outcomes, but lack of information. The report recommends increased nutritional education (FAO, 1984).

Organizational Viability

The most thorough study of KTDA (Lamb and Muller, 1982) takes

the project's positive income effects as its starting point and focuses its analysis on the factors determining the organization's success.

KTDA's autonomy results largely from its financial independence from the Kenyan government. External finance and the cess provide most of the organization's revenues and, as long as it does not make excessive profits or losses, the government has little incentive or justification to intervene. The early exemption of tea from export taxes has also been important in this respect. Control over the important aspects of tea production and processing has ensured a steady supply of high quality material. KTDA has achieved this by retaining authority for the most crucial stages of the operation (initially, the distribution of planting material and, later, inspection and payment).

Accountability to growers as shareholders and Board members has prevented KTDA from exercising its autonomy and control at the growers' expense. Finally, the system provides a series of performance incentives for each of the participants. The payment system provides growers with a combination of security and rewards for quality. KTDA field staff are seconded from the Ministry of Agriculture and can be returned there; slightly better KTDA salaries and perquisites (e.g. better housing and transportation) give them a reason to try to stay with KTDA. Finally, as noted above, KTDA management has an incentive to avoid both losses and the accumulation of large reserves, since either would invite government intervention.

A cost-benefit study carried out for the OECD (Stern, 1972) found the KTDA's extremely tight organization to be of major importance, confirming, in more general terms, Lamb and Muller's findings. Lele, however, points to the intensity of the relationship between KTDA and its growers through the heavy use of 'trained manpower and financial resources' (Lele, 1975, p. 14). The ratio of extension agents to farmers in KTDA, for example was 1:120, while for Kenya on average it was 1:500. Furthermore, total operating expenses per beneficiary were about 50% higher than the government's *per capita* expenditure on agriculture. For these reasons, Lele was somewhat sceptical about the degree to which the KTDA constituted a feasible model for national programmes.

GROWER ORGANIZATION

In KTDA, grower organization has been an important influence on

the scheme's operations; rather than a response to KTDA practices, however, political organization has been a prior conditioning factor. The central highlands of Kenya are an area of high population density and had a tradition of resistance to the British during colonial times (Swainson, 1986). These factors would have made it politically impossible to set up plantations here in the 1960s, as was done in the Mumias nucleus estate: a smallholder scheme was the only choice. Since then, KTDA has had to be responsive to growers' needs. The middle peasants who supply much of the scheme's tea form part of the government's social base of support. Furthermore they have direct as well as indirect means to pressure KTDA management, the former including the farmers' tea committees through which they are represented on KTDA's Board.

SUMMARY

The unique organizational style and structure of KTDA have permitted it to achieve an unusual degree of success, harnessing the productive potential of smallholders in a rational and efficient manner. The challenges facing the organization are problems associated with success. First, it must avoid complacency and maintain and improve its performance in order to sustain Kenya's competitive position internationally. There are signs that this will require a conscious effort. The organization seems to be passing up some opportunities (for example, better use of its data on yields, more flexible extension systems based on demonstrations at delivery stations) which a 'lean and hungry' enterprise might exploit. Second, it must find a way to maintain its own morale and prestige without diminishing that of the rest of the public extension service. There is still a danger that non-KTDA extensionists working in unpublicized programmes with basic food crops will see themselves as second class civil servants and perform as such.

CONCLUSIONS: MUMIAS – KTDA COMPARISONS

The settings and structures of Mumias and KTDA differ in several respects, though the results have not been as dissimilar as one might expect. The sugar scheme set up a nucleus estate in a financially and ecologically poor region of Kenya, displacing large numbers of

farmers. The production system involves very heavy central control and the crop has a long gestation period and infrequent harvests, resulting in large but infrequent payments. Technology transfer has not been a conspicuous feature of the scheme.

KTDA, by contrast, did not set up a nucleus estate, but set up factories to buy from local farmers in a relatively prosperous and ecologically favoured region. Outgrowers bear more responsibility for production and their farming practices are influenced more by price incentives and extension than direct supervision. As a result, technology transfer has been significant. The nature of the climate and the crop leads to a fairly continuous harvest and frequent payments which are more conducive to careful financial management and expenditures on basic needs.

Both schemes have been qualified successes, producing significant income increases for outgrowers. There are indications that there is untapped potential in both, because of a lack of regional development planning in Mumias and a tendency for KTDA to 'rest on its laurels'. Income increases have not gone into major capital investments, but have largely been used for consumption and, particularly, for education. In both schemes, there has been little differentiation among growers. Instead, major income gaps have appeared between outgrowers and farmers not involved in the scheme. (The lack of differentiation among outgrowers, at least in the Mumias case, could be a basis for criticism rather than praise: farmers are so tightly controlled that they have little opportunity to advance themselves by developing skills or exercising initiative). Acreage limits or farmers' preferences have also prevented specialization. As in most cases in this book, farmers have not abandoned food crops.

The cases also underscore the importance of pricing policy in determining the success of a scheme. In KTDA, the lack of an export tax has allowed growers to capture a large share of the world market unlike many other African farmers. In Mumias, protection has allowed the producer price to rise well above that which an open market would permit, with sugar growers benefitting at the expense of the Kenyan consumer.

6 Commodity Sketches: Mini-cases from Latin America

As shown in the in-depth studies of the previous chapters, contract farming can have far reaching effects on households and communities. Other ventures have had more limited impact or highlight specific issues that can be appreciated without an extensive knowledge of their context. This chapter consists of a number of 'mini-cases' from the authors' fieldwork which provide more specific lessons for agri-business planners.

TOMATOES FOR PROCESSING

Tomatoes are a classic contract farming commodity. Processing plants which produce ketchup, tomato sauce and juices have large fixed costs and need an assured volume of throughput at predictable prices to run economically. Tomatoes are also highly perishable, particularly in tropical conditions, and growers often prefer relatively low but stable prices in a contract rather than take the risks of selling in the open market. Certain features of tomato production and marketing, while favourable to the use of contracts, also present serious problems for small growers, as the following cases from Honduras, Ecuador and Panama illustrate.

In Honduras, a processor known as Mejores Alimentos Ltda. produced a large volume of tomatoes on its own land and, in part because of government policy, purchased an additional amount from ten to twenty large farmers. Complaints from farmers about the contracting relationship were common and included allegations of long waits to rent company-owned harvesters, highly variable reject rates, and low prices. The latter (at $140 a ton in 1980–81) were at the low end of the market price range.

With prices and other contract conditions so poor, one wonders why the farmers grew for the company at all. The answer seems to lie in two severe problems in the fresh market for tomatoes.

First, these large growers use a great deal of hired labour,

especially at harvest time, and cash to pay the workers is hard to come by. Workers expect to be paid daily, i.e. before the crop is sold and, in the case of early-season tasks, before it is harvested. The company is by far the easiest source of credit, although its interest rate is no better than that available from private banks. Growers say that a contract is of some help in obtaining bank credit, but not a great deal. Government loans carry lower interest rates, but are even harder to get, requiring a great deal of paperwork, waiting and many guarantees. Each of the growers interviewed said that access to credit was their principal motive for contracting.

The certainty of selling all production at a fixed price is the second important advantage of a contract. Prices in the open market fluctuate considerably, since the tomato market is very 'thin'; the amount of fruit sold is quite small and minor changes in volume traded can have a drastic effect on prices. The thinness of this market has two implications for large growers. First, the delivery of even one day's harvest can lower the market price significantly. Price sensitivity analysis (Johnston, 1977, p. 22; Glover, 1983, p. 221) shows that a delivery of a six-acre harvest will lower the price to half of its original level. Spacing deliveries over a longer period would mitigate the problem, but is not practical. The tomatoes can keep for only a couple of days in the tropical sun before they start to spoil, and weight loss from evaporation begins even sooner. Refrigerated storage facilities would be very expensive. The second implication of this is, of course, that permanent entry by a large grower would lower producer prices permanently.

The thinness of tomato markets and the market power of large growers effectively eliminate this market as an alternative to contracting for large growers. Permanent entry by these producers would depress the market price to the contract level in any case, but without a contract there is no guarantee that deliveries, either to the plant or to wholesalers, will be accepted. Onions, peppers and other vegetables present the same credit and price sensitivity problems as tomatoes. Corn, rice and other basic food crops can be mechanically harvested, eliminating much of the wage bill, and markets are deep enough that no one producer can affect prices. Unfortunately, prices, though more stable, are lower and will not compensate for the expense of dry season irrigation. The result is that large growers have no real alternative to tomato contracting, except to leave their land idle four months of the year.

Small growers are currently prevented from contracting by com-

pany policy; even if they were not, it is unlikely that the firm would attract a great many of these producers at current prices. For a small grower, the relative advantages of open-market and contract sales are quite different. Small growers are, to a much greater extent, price takers and the fixed-price aspect of a contract is less important. Access to credit is also less of an advantage, since these peasant producers rely principally on family labour. The alternative to vegetable cultivation is, again, to leave the land idle, which many farmers do.

During the tomato season, many peasants work for the tomato producers and the demand for labour is such that wages greatly exceed the legal minimum. While agricultural workers in the area normally earn about $2.25 a day, the average daily wage of tomato pickers, who are paid at piece-rates, is $5 and many earn more. The harvest season coincides with the school holidays and often whole families work in the fields at this time. The resulting situation is one in which large producers contract with the processing firm while small producers supply the more lucrative fresh market.

What is perhaps most interesting about this case is that it is imperfections in factor and output markets (for credit and tomatoes), not any dis-economies of scale in production, that make contract farming in tomatoes unsuitable for small farmers.

Contract farming in tomatoes has created serious problems for small growers in Ecuador and Panama. Repeated cultivation of tomatoes without adequate rotation and/or chemical controls can lead to a variety of soil infestations, most commonly nematodes. In both countries, small farmers grew tomatoes without adequate precautions; many experienced infestations so severe that within a few years their land was unsuitable for cultivation of any crops. In Ecuador, it was severe enough to cause significant numbers of growers to sell their land and leave the area. The company, Desarrollo Agropecuario Ltda., responded principally by shifting its supply sources to other regions where soils were not yet infested.

Two factors could be to blame here: lack of information and inappropriate prices. On the first point, the companies were clearly at fault if they failed to inform their growers about proper crop rotation. The second point is more complicated. Local observers often commented that the company's low product prices were to blame, since they provided the grower with insufficient income to afford rotation. If prices were higher, they said, growers could afford to plant a lower value crop in alternate years and still maintain an adequate income.

Without observing the response of farmers to significant price changes, it is difficult to evaluate this argument. It is possible that growers would reduce production as the price increased, but only if they were well informed about the consequences of mono-cropping. If they were not, a normal upward-sloping supply curve could be expected and higher prices would only exacerbate the problem.

The last problem discussed in this section occurred in Panama. Farmers delivering tomatoes to a processing plant often found themselves waiting at the gate for up to a day and a half. During the delay, the tomatoes would lose weight due to evaporation and the company would then receive a more concentrated product for the same price *per* pound. Longer delays resulted in spoilage and a higher reject rate. The company insisted fairly persuasively that this was a coordination problem which occurred because of weather and because growers had not followed their assigned planting dates. A government investigation of the point was inconclusive and many growers continued to suspect that the delays were staged in order to manipulate the effective product price.

BANANAS

Most of this book deals with the relationship between agribusiness and small farmers. Agribusiness firms do contract with large farmers, however. In fact, the commodity for which contracting is quantitatively most important – bananas – is grown for export almost exclusively on plantations and cooperatives. Because of its quantitative importance and because it raises important issues different from those highlighted in the other cases, the banana industry deserves specific attention.

Latin America produces about two-thirds of the bananas traded internationally and three transnational corporations – United Brands, Castle & Cook and Del Monte – market about 70% of those exports. These firms own their plantations and also purchase bananas from local producers under contract. The percentage purchased in this way varies from firm to firm and country to country but averages about 30%.

Contracts generally run for renewable terms of five or ten years. The contract growers, or 'associate producers' (APs) as they are known in this industry, generally cultivate at least 300 acres of

bananas. Economies of scale are very important in banana production, mainly because of the need for frequent aerial spraying to control diseases. The transnationals generally provide the bulk of the services and many of the inputs needed for production, deducting the cost from product payments. In some cases, such as the large production cooperatives in Honduras, loans are also provided (by multilateral development banks) for infrastructure or rehabilitation. Supervision by the TNCs and coordination of farming practices, particularly harvesting, is very tight and responds very quickly to changes in world market conditions. Labourers perform highly specialized tasks and the plantation exhibits many features of assembly-line production in a factory.

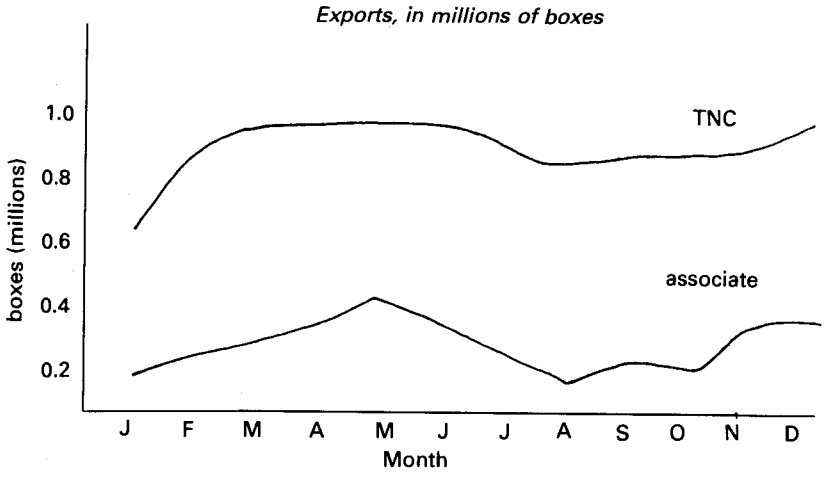
Several features of the associate producer system are worthy of note. First, there are significant differences in the wage paid by TNCs on their own plantations and those paid by associate producers. The earnings of cooperative members also differ from those of TNC plantation workers. Estimated daily earnings for Honduras in 1981 were:

TNC plantation worker:	$6
Cooperative member:	$4.25
AP plantation worker:	$2.55.

The relatively high wages of TNC workers (high relative to other banana workers and to agricultural wages in general) seem to be a function of the high degree of worker organization. In most Central American countries, TNC plantations are fully unionized and in some they are politically quite effective. Associate producers' plantations are rarely if ever unionized. On cooperatives and worker-managed enterprises in Honduras, unionization is actually illegal.

The plantations of associate producers and cooperatives are also subject to greater instability of sales than TNCs. The transnationals tend to market all of their own production, while using APs as reserve suppliers during periods of peak demand. This is done by varying the quality standards applied to the AP's fruit in order to evade contractual obligations to purchase all acceptable fruit delivered.

The following table shows the exports by one transnational and its associate producer over a one year period in Honduras (Cohbana, 1979):



One of the issues raised in the literature is the degree to which associate producers are effective lobbyists for the TNCs, increasing the latter's political influence in the host country. The degree to which APs have been effective lobbyists depends on the degree to which their interests coincide with those of the TNCs and the degree to which the APs are politically influential.

On the first point, it is apparent that the interests of contract growers are ambiguous. When it comes to keeping costs of production down, for example by legislating against trade unions or by granting duty-free status to agricultural inputs, local growers and TNCs are of one mind. Any successful lobbying the APs do on these issues will benefit the transnational. On the issue of the price paid for contracted bananas they are clearly opposed. On the broader issue of the presence of TNCs in their country, contract growers are generally supportive. The growers interviewed also wanted the companies to maintain plantations in the country, since this allowed them access to the companies' research facilities.

On the second point, the evidence is that associate producers have not been particularly influential politically. In most countries, these growers are ex-company foremen without a great deal of money, education or influence. An exception is in Costa Rica, where the TNCs set up their associate producer programme through expansion rather than by transferring land. Here the companies have contracted with large and often diversified businessmen. Many of these are quite influential politically and a couple have held cabinet posts.

Finally, it should be noted that the expectations of local govern-

ments about the reduced 'enclave' effects of subcontracting have not been realized. The 'spinoff' and employment effects of banana production have been equally slight for TNCs and associate producers. In both cases, nearly all of the inputs used are supplied by the TNCs, which either import them (duty free in the case of chemicals) or produce them in TNC-owned factories.

Given the technological imperatives of export banana production and its unsuitability for smallholder production, the associate producer system has, for the most part, succeeded only in shifting some landownership and profit earning to local plantation owners. This has not been sufficient to increase the industry's potential to promote economic development; nor has it resulted in increased earnings for labour.

SUGAR

In Honduras, eight sugar mills process cane, largely for the domestic market. With the exception of one state-owned firm, each company cultivates substantial amounts of cane, purchasing the remainder under contract. Contract purchases are a response to Article 39 of the 1975 Agrarian Reform law, which limits the amount of land an agro-industry may own. This area is generally less than that needed to keep the processing plant operating near full capacity, so outside purchases are necessary.

The sugar mills generally contract with many types of growers, including large business farmers, absentee landlords, peasants and cooperatives. The last two types have expressed dissatisfaction with the treatment they have received from the firms and government inquiries have been held to investigate their complaints (e.g. INA/IICA 1980b). Fieldwork in the Choluteca area of southern Honduras confirmed that neither firms nor small growers were satisfied with the contract arrangements and complaints by farmers, about late payments, excessive charges for technical assistance, and long waits at delivery time, were common.

Government policy is largely responsible for the use of contracting in sugar; without the Agrarian Reform law, the mills would almost certainly grow all their own cane. Policy also determines the most crucial variable in the contract: the producer price. While the government does not set the cane price, it does set the wholesale and retail prices at very low levels. Processors therefore have little room to

manoeuvre in negotiating prices for cane and are under considerable pressure to keep them as low as possible.

Many of the problems that have arisen between the firm and its smaller growers stem from the fact that sugar is not particularly suited to contract production by smallholders in southern Honduras. For several months of the year, the climate is dry and irrigation is required. Most of the cooperatives and smallholders do not have irrigation facilities or any advantage to offset this shortcoming. The closer supervision and availability of family labour which are important for delicate, labour-intensive crops, are of little value in cane production. Often their land is not especially good for sugar cane, unlike company land, which was selected specifically for this purpose. Small farmers are also unable to afford a costly and specialized piece of equipment called an 'encargadora' which is used to load the cane onto trucks for delivery to the plant. The need to rely on the firm for rental of this equipment puts smallholders in a dependent position.

Smallholders also create administrative problems for the firms, which must send out their harvesting and loading equipment to a few acres of land here and there. They would prefer to own large blocks of land which could be economically irrigated and harvested in a factory style operation. Since the Agrarian Reform law limits their ownership of land, the second best strategy is to contract with large growers, who receive most of the technical assistance and better treatment at harvest time.

Under these conditions, the only motive for peasant farmers to grow for the company is a lack of alternatives for a certain type of grower. Of the three cash crops grown in Choluteca (sugar, cotton and melons), sugar is by far the easiest to grow and the least sensitive to poor weather. Cotton requires expensive inputs and melons require technical expertise, close supervision and the willingness to accept high risks in the export market. Farmers who are relatively unskilled or risk-averse may prefer the low but fairly secure income provided by a sugar contract, sometimes in combination with other crops.

The bargaining power of small farmers in the Choluteca case is limited by the heterogeneity of the firms' suppliers and, in particular, the presence of one type referred to as 'prestanombres' or 'name lenders'. Large, often absentee, landowners with little interest in farming have signed contracts with the sugar mills, which assume *de facto* control of the farming operations. The landowners receive an assured if not lucrative income, without any of the headaches or risks

of managing the farm. Prestanombres are likely to accept a lower price than business-oriented farmers who expect compensation for their managerial skills, not just a fee for use of their land. Not all large landowners are prestanombres; some do manage their own operations. Even these growers, however, will be more inclined to discuss their grievances with the company individually than to join a bargaining organization of peasants with whom they have little in common. As a result, efforts by discontented growers to better their situation have taken the form of sporadic and ineffective complaints rather than organization.

FRESH FRUIT AND VEGETABLE EXPORTS

The expansion of smallholder contract farming has been particularly noticeable in fruit and vegetables for export to developed countries. Crops such as melons, berries, cucumbers and peppers are particularly suitable for peasant farmers since they require considerable labour and attention and can produce high incomes per acre. At the same time, vertical coordination is extremely important to match production and quality to seasonal fluctuations and consumer preferences in the final market.

Two export schemes in Honduras, each involving joint ventures between transnational corporations and the Honduran government, have produced significant benefits for small farmers. There is some doubt about the profitability and long term viability of the schemes, however.

In Choluteca, a firm known as PATSA (Productos Acuaticos y Terrestres, S.A.) purchases cantaloupes and honeydew melons for export to the U.S. during the winter months, after U.S. production has stopped and before Mexican production begins. PATSA is a subsidiary of United Brands, a transnational conglomerate that has grown bananas in Honduras for over a century. The project began in 1975 and involves three government agencies in addition to the company: the agrarian reform agency (INA), the National Development Bank (BNF) and the Ministry of National Resources (MRN). INA owns the packing shed and the land it is situated on; BNF provides loans to producers; MRN is ostensibly responsible for technical assistance to growers. PATSA pays a fixed price for acceptable melons and handles transportation, marketing and much of the technical assistance.

Melons are grown for only a few months each year and require constant supervision. When cantaloupes are ripening, for example, the fields must be harvested three times a day in order to get the fruit at exactly the right stage. Melons are a luxury product, purchased by affluent U.S. consumers who expect a cosmetically perfect product for the high prices they pay. Quality standards at the packing plant are correspondingly high, with the reject rate averaging 50%. Production is all done by fairly small growers and the company does not grow any melons itself. No specific equipment is needed and transportation to the packing house is by small pickup truck, a vehicle commonly used in the area and easily rented. Prices are considered very good by most growers, reflecting the luxury export market to which they are geared, although many farmers are frustrated by the high reject rate.

Earnings, grower satisfaction and the transfer of technology are all high. Production, however, is not up to expectations and PATSA is dissatisfied. The packing shed operates well below capacity and fixed administrative costs on the operation are high for the small volume of produce exported.

Additional production could be obtained in a number of ways, none of them fully satisfactory. One would be for the firm to grow some melons itself; the firm says this would be feasible economically but not politically; it believes a low-profile image is safer. Another possibility would be to deal with larger growers, but this would likely result in lower quality. A third would be to try to attract more small growers; the question is how? Higher prices might produce more quantity but probably not of sufficient quality. A more aggressive recruiting and extension program would tax the firm's administrative capacity. Instead, the firm is relying on the growers' cooperative to implement an outreach programme.

A similar scheme at Fruta del Sol for exporting cucumbers, operates in the Comayagua area of Honduras. It involves Standard Fruit (the second major banana transnational operating in Honduras), USAID and the BNF. Pricing policies differ between the two schemes. PATSA provides a fixed price to growers regardless of the final price received: at Fruta del Sol producers receive the sales price commission about six weeks after delivery. In Fruta del Sol's first year, project managers tried to 'shelter' producers from price fluctuations and did not inform them of U.S. buyers' acceptance of the fruit delivered. This practice was found to have negative effects on production quality and was discontinued. Informing producers about

buyer acceptance of each delivery has produced a better understanding of the importance of specific quality features and improved farming practices.

The same producer benefits that occured in PATSA are apparent in Fruta del Sol. So is the development of business-like practices by growers and the strengthening and diversification of the producers' cooperative. In the long run, these may be more important benefits than the earnings or farming skills associated with specific crops. The life span of a non-traditional export can be very short. Disease and pest problems can spring up overnight with a new crop in tropical conditions. Competition from other countries is fierce, technological innovation rapid, and protectionism in developed countries is an increasingly serious constraint.

Honduras has had to deal with all of these problems. Standard Fruit had tried growing tomatoes in N.W. Honduras before Fruta del Sol but abandoned them because of pests. Fruta del Sol is shackled by a U.S. customs regulation which prohibits the importation of cucumbers through Miami, a regulation which substantially increases transportation costs. While its ostensible purpose is to avoid the spread of fruit flies, its real purpose is probably to bolster the competitive position of Florida growers. PATSA has faced serious competition from producers in Puerto Rico, who developed a production technique that could have put PATSA out of business in one season.

These problems raise doubts about the long term viability of any particular operation and questions about the motives of the firms in promoting them. They may well be simple public relations exercises. The amount of profit or loss that United Brands or Standard Fruit make on these operations is tiny compared to their global earnings or even those they make from their Honduran banana operations. PATSA and Fruta del Sol are, to some extent, a way of staying in the government's good graces and maintaining the status quo on the banana front. It is probably realistic to regard these projects, not as long term activities in themselves, but as vehicles to strengthen producers' organizations and to transfer technology and managerial skills.

MILK IN HONDURAS

Leche Leyde is the only private sector dairy operating in Honduras. Its plant is located in La Ceiba, the headquarters of Standard Fruit,

the international banana and pineapple company. Small and medium-sized farmers in the area traditionally kept a few head of dairy cattle; their milk was used to make fresh cheese for local market sales. This market was not very lucrative, but was the only outlet possible in the absence of refrigeration or dairy processing plants.

The Leche Leyde plant was built by a local storekeeper and medium-sized farmer, the son of an immigrant who worked as a foreman for Standard Fruit. Selling milk at first only in the northern coastal cities, it soon expanded to cities nationwide. It competed successfully with the two government-owned dairies by delivering fresher milk to stores and by selling small containers of flavoured milk (chocolate, strawberry, egg-nog) to poorer urban consumers, who lacked refrigeration and had not traditionally bought milk. Advertised as a healthy alternative to soft drinks in radio commercials, the flavoured milk drinks proved popular and expanded the national market for milk.

The dairy was as innovative in its milk purchasing organization as it was in its marketing. Through efficient operation of truck routes and meticulous attention to sanitation, it avoided the problems common to tropical dairy operations that lack on-farm electricity or refrigeration. Twice daily, ice trucks picked up milk containers from every farm and dropped off sanitized containers for the next collection. Routes were relatively short, since the area's cheese-making tradition meant that almost every farmer in the zone had dairy cattle. All sold to the dairy because their incomes were so much higher. Profits on local sales of cheese were barely adequate to pay for the costs of the cow; profits on fresh milk sales were sufficient to become the largest source of income in the household.

Leche Leyde's impact on small farmers was as wholly positive as in any case in this book. Why? Most basic was the efficiency and honesty with which it was run. It kept fair books, paid promptly, and never missed a milk collection. It was able to make large profits, for expansion and reinvestment, selling milk at government-set prices that required public subsidies to the government dairies.

Second was its ability to constantly expand its markets. In five years, as production doubled and redoubled, it always stood ready to take as much milk as a farmer could produce. To the individual farmer, it was an unlimited, fixed-price market. It even planned to make ice cream, as soon as its raw material volume permitted, to keep up the expansion.

Third was its context. The dairy was an expanding alternative

agribusiness in an area that for sixty years had been dominated by a banana company whose operations were no longer expanding. Most of the dairy farmers had family members who worked for Standard, either in the recent past or the present. The income from the milk sales could equal a wage, yet the work could be carried out by school children or by women whose other tasks took up most of the day.

Fourth, little technical assistance and no farm credit was needed or given. These farmers had the cows and the know-how; all that was needed was a market. The company filled in the infrastructure gaps (ice, trucks, urban distributors) to connect these farms to the national market for their milk.

CANNED FRUITS AND JUICES IN GUATEMALA

Two companies in Guatemala specialized in canned fruits and juices for the Central American market – Conservas and Del Lago. Their most popular products were six-ounce cans of sweetened juices ('juguitos'), marketed under their own brand names and sold in every corner store in the region. Conservas was locally owned; Del Lago is the Guatemalan subsidiary of a small Costa Rican canning company. Both companies had purchased used equipment and received technical assistance from U.S. agribusinesses. Their basic markets – juguitos – were not expanding, and the Central American Common Market had introduced serious competition among the six producers in the region. The juices could be made either from fresh local fruits or from imported concentrate. Both companies used concentrate, partly because local supplies were unreliable, in the absence of a field-staff to keep up contacts with farmers. To expand, they would have to switch their emphasis from sweetened juices to canned fruits, which had export potential. This meant buying local fruit.

Conservas chose to do this through spot purchases from truck-owning intermediaries who bought fruit from local growers on speculation and brought it to Guatemala City. If the fruit's quality was too low, or if it had deteriorated too much for sale on the fresh market, the truckers would come to offer their fruits at the Conservas gate. The advantage of this system was its low cost. No field staff was required, and the raw materials purchased were the lowest-priced available. The disadvantage was the uncertainty of supply, both in type of fruit and in quantity.

Del Lago hired two field-staff to make contact with fruit growers

and try to buy their fruits; one worked in the temperate orchard region (apples, pears, etc.), the other the coastal tropical zone (pineapple, guava, etc.). These buyers offered the farmers a large market but little else. Its prices were lower than those in the fresh market, and it gave no price or volume guarantees. Nevertheless, they were able to buy all the fruit that the plant needed.

The Conservas system of no direct purchases from growers failed, for lack of supply. The company struggled on for two years, opening when it had fruit to can but more often closed, and finally it was sold to a rival operation.

The Del Lago system evolved into a modified contract system and succeeded. The company discovered that it could get the type of fruit it needed, when needed, if it offered small amounts of production credit, a month or so before harvest, to relatively small growers. Those loans were used to purchase appropriate insecticides that would not leave residues in the canned fruit. To obtain these credits, a farmer would contract to deliver an agreed number of truckloads of minimum quality fruit, on agreed dates, at an agreed price. On delivery, the interest-free loan would be deducted from the payment. As long as the contracted truckloads were delivered, farms were free to sell as much of their best fruit to the fresh market as their yields permitted.

The system allowed the company to plan production, purchase raw materials proportionate to its anticipated demand for the various canned fruits, and avoid problems of insecticide contamination. It allowed the farmers to get insecticide and to lock into a market for their lower quality product. Neither took much risk, since the contracts were made so close to harvest time that the size of the harvest and the likely fresh-market prices were relatively predictable.

Del Lago succeeded in entering the U.S. market, canning fruit under different brands for various distributors. Eventually, it became the major exporter of canned fruits in Central America. Its success demonstrates that contract farming need not be elaborate or extensive; in the right circumstances, a system which provides a few key inputs can be just as effective and much less costly.

7 Conclusions

The case studies described in previous chapters demonstrate the diversity of experience associated with contract farming schemes, in the forms they take, the effects they have on local communities, and their long term viability. This chapter attempts to draw from this diversity some broad generalizations about the issues presented in Chapter 1.

(a) What problems do firms and growers most frequently face in contract farming?

Contracting provides many advantages to firms in reducing risks, improving raw material flows, and other aspects described in Chapter 1. It is not without problems for the firms involved, however. The most serious problem, though not the most frequent, is defaulting by contract growers. When the market price rises above the contract price there is great temptation for farmers to sell on the market. Firms have dealt with this problem in a variety of ways, including the use of court action and blacklists to punish the offenders. It is also possible to prevent the problem in the right circumstances. If the local market is thin and the company has some production, it may be able to manipulate the market; by selling a truckload when fruit is in short supply, it can flood the market and keep the market price down.

More common than contract defaults are problems of insufficient or inconsistent quantity and quality. Inexperienced growers may find it particularly difficult to achieve the same yields and quality that the company obtains on test plots, and the latter yields are often used as the basis for setting prices. Companies also complain that growers do not follow their technical advice or suggested planting dates. Growers often try to economize by applying less than the recommended quantity of chemicals and they may plant when it is convenient, rather than on the date agreed. Ignoring planting dates creates problems at delivery time, causing deliveries to arrive in bunches, exceeding or falling short of plant capacity.

As the case study material has shown, contract farming can also present a variety of problems for growers. Many of these arise from the difficulty of coordinating the production and deliveries of many

farmers so as to ensure an optimal flow of raw material. These coordination problems result from three sources:

(a) the failure of growers to comply with company instructions
(b) the company's lack of physical or managerial capacity
(c) exogenous variables – principally weather.

An example of a coordination problem is the competition for company-owned machinery at harvest time; growers must often wait until the firm has completed its own harvest before obtaining access to the equipment.

Coordination problems are not the only ones faced by growers in dealing with agro-industries, however; companies may also attempt to manipulate or take advantage of their suppliers. This type of problem is probably the most interesting, but it is often difficult to tell whether manipulation or lack of coordination is occurring. The case of tomatoes in Panama is perhaps the best example, where it was unclear whether long waits at the factory gate for tomato deliveries were the result of poor coordination, or a deliberate effort to increase evaporation and reduce the effective product price.

In cases where growers are in a weak bargaining position when signing a contract, or do not fully understand the contract's implications, the company may be able to draw up an agreement which, strictly enforced, will allow it to manipulate its suppliers. More commonly, however, the contract is superficially equitable, but is circumvented by the company. Sometimes this involves breaking one of the provisions of the contract, though not always. Few contracts are 'perfectly contingent' and a number of variables are usually left open. For example, some processors, such as McCain, reserve the right to 'call up' deliveries from growers at dates chosen by the processor. While companies usually describe their orders to deliver as simple coordination decisions, it is also possible to use the best delivery dates as rewards for favoured growers. Some contracts and contracting situations allow more scope for favouritism than others, but this element is almost always present to some degree.

Finally, one must distinguish between manipulation by the firm itself and manipulation in the self-interest of individual employees. Inspectors are notorious for demanding bribes, for example, even though this creates quality control problems for the company. Company fieldmen have also been known to take kickbacks on input sales and to recommend excessive applications in order to maximize

those kickbacks, as in the ALCOSA case. KTDA extensionists have to some extent undermined the agency's attempts to control plantings, by accepting payments for seedlings. While it is difficult to control such behaviour, it is not impossible, as the administrative reforms and subsequent improvements in ASAGRO demonstrate.

Other examples of problems encountered by growers include the following:

- Manipulation of inspection standards to control deliveries. (If production exceeds the firm's requirements, it may surreptitiously raise its quality standards in order to reject excess production, as in McCain, the banana industry and numerous other instances.)
- Poor technical assistance. (Most contracts require growers to follow the company's advice, but absolve the firm of responsibility for the results. The tomato processing firms provide the most obvious examples.)
- Tying one contract to another. (In cases where the company purchases more than one crop, growers may be pressed to sign a contract in crop A in order to get one in crop B. This occured in the McCain and ALCOSA cases.)
- Cheating or insufficient specification in growers' accounts. (The company may charge growers for goods and services not actually delivered, or fail to specify quantities, dates, etc. as in ASAGRO in Peru and many examples from the literature: Odada, 1985; Rama, 1985; Scott, 1984.)
- Late payments. (Delays of up to two years have been recorded, for example in the Honduran sugar industry, a problem of particular severity when inflation is high.)

This listing is indicative of the kind of problems frequently encountered. As noted in the analyses of ASAGRO and ALCOSA, farmers frequently draw attention to problems of a highly specific nature or are influenced by such examples in their overall assessment of an agribusiness. These cannot form the basis for an evaluation of a CF as a system, however, or even for the evaluation of a specific case. A comprehensive view requires attention to more fundamental effects; these will be discussed in subsequent sections.

(b) What role do credit and debt play in contract farming?

In many cases (McCain, ALCOSA and others), access to credit proved to be an important motive for farmers in signing production contracts with agribusiness firms. In some cases, the contract itself makes provision for credit from the firm, with repayments often deducted from the product price. In others, the contract serves to assure banks of the farmer's credit-worthiness, thus facilitating access to private credit.

Debt is most likely to be a problem with crops which have long lead times before the first harvest. For sugar, asparagus or tree crops, for example, growers may have to wait several years to earn any revenue. Loans are necessary to carry the farmer over this period and high levels of indebtedness can accumulate, as they did in the Peruvian case. If projected profits are not realized, because of changes in costs of production or market conditions, repayment problems will result. The longer the pre-harvest period, the more likely it is that projected and actual profit levels will differ.

These problems are compounded in the economic and institutional environment of many LDCs. High and variable inflation rates make it difficult to determine appropriate interest rates. Ceilings on interest rates set by government policy (often negative in real terms) can prevent firms from setting appropriate rates, once determined. Small farmers with limited business experience often have difficulty keeping their own records and in distinguishing between real and nominal interest. Furthermore, loan disbursements are usually made on a weekly or monthly basis at rates equivalent to a minimum or subsistence wage; this can create the perception among farmers that they are receiving a wage for work performed prior to harvest, rather than a repayable loan. This was a major element in the ASAGRO case in Peru. The more distorted the price, the less experienced the farmer, and the longer the pre-harvest period, the more likely it is that problems of perception will exacerbate and compound financial problems.

(c) How does contract farming affect risk-bearing by growers?

As noted in the Introduction, contract farming is fundamentally a way of allocating risk between the firm and its growers. The firm tends to assume marketing risks while the growers bear most of the production risks. Two general points should be emphasized. First, the precise distribution of risk will depend on the specific provisions

of the contract and the way they are implemented. Implementation is important since the reality of a contracting situation may differ markedly from the formal terms, as many of the case studies have shown. Second, there is in theory considerable interdependency in a contracting relationship and much implicit bargaining over risk allocation. One cannot assume, for example, that a firm can avoid all the consequences of droughts, floods, diseases and so forth by transferring responsibility for production to outgrowers. A rational grower with some room for choice will not accept a risk unless he is compensated for it in the product price.

In practice, the distribution of risk will depend heavily on such factors as bargaining power, availability of alternatives and access to information. For small farmers entering their first relationship with an agribusiness firm, the contract is likely to be less risky than existing alternatives; with this comparison in mind, small growers may well accept a disproportionate share of risk within the boundaries of the contract. The firm may also be able to shift onto small growers the risks and costs associated with new crops or farming practices, simply because information about their medium- to long-term effects has not been disseminated. The tomato producers in southern Ecuador are a case in point, where a processing firm was able to avoid the effects of soil contamination for several years by continually shifting to uninformed growers in new regions.

Dynamic factors also come into play when small farmers enter new agribusiness ventures. Both have been alluded to earlier. New ventures in this field are often very risky and growers will be exposed if they rely on a 'pioneer' firm for a large portion of their income. 'Agri-business normalization' often shelters producers from risk for a year or two; by the second or third year, the firm may find it impossible to continue to sustain losses, at the same time that growers have incurred debts and committed more resources to the new crop. The typical outcome is for the firm to begin to squeeze the growers just at the time that farmers have become more dependent on the scheme. An alternative, though less common scenario, is that the farmers will have invested the revenue earned during the 'honeymoon' to diversify their economic base in such a way that they are now less, rather than more dependent on a single crop or buyer. Some of the Guatemalan vegetable growers were particularly active in this respect in seeking out alternative markets. In any event, it is clear that risk must be assessed over a longer time scale; one cannot assume that the initial distribution of risk will persist.

(d) What changes in income does contract farming produce?

Contract farming holds far less possibility for coercion than traditional agricultural relations between smallholders and the rural elite. Landlords and money lenders can coerce the rural poor into quite exploitative relationships because the elite control access to land and inputs that the rural poor need for their survival. Agribusiness processors control access to new markets. What they offer farmers in a contract is not the right to continue living through the next agricultural season on the same terms as always; it is the chance to enter a new market.

That being the case, the firm must induce and not coerce the smallholder to sign the contract, generally by offering better prices. In these cases, outgrower income was, in fact, increased as a result of the contracts. As agribusiness normalization proceeds, outgrower incomes may be reduced from their initial levels. However, this reduction cannot go too far or the small farmer may return to his pre-contract markets, assuming these still exist and that the grower is not locked into the new crop by debt, specialized machinery or other factors. There is also the possibility of increasing quality and yields from innovative farming practices to offset any reductions in price or quality terms.

In virtually every case reported in this book, growers did achieve significant income increases. Nor did we encounter cases in which growers were locked into schemes that lowered their incomes. However, we have not devoted much attention to the many ventures which have failed after one or two seasons because of insufficient profits for the firm or its growers. There is an inevitable bias in our study in this respect, since it is more difficult and probably less revealing to examine cases that have failed and no longer exist. Our sample shows that contract farming can produce significant income increases, sometimes double previous levels. The issue is, not whether such increases can be achieved, but whether they can be sustained and replicated in other ventures, a point we shall return to in the last chapter.

(e) Does contract farming in LDCs exclude small farmers?

There are both ideological and practical reasons why agribusiness might prefer not to work with small farmers. Agribusiness managers often share, with other educated town dwellers, the stereotype of small farmers as backward and unreceptive to innovation. They

sometimes prefer to work with more educated 'medium sized' commercial farmers, who are often urban professionals and businessmen with farming sidelines. Nor can it be disputed that, for the same volume of raw materials, a large number of small outgrowers requires larger, more complex and more costly field operations to contract, advise, monitor, finance, receive, inspect, transport and pay for the outgrowers' products. Such expenses can nearly equal the farm direct production gate costs of the raw materials themselves, as they did for such small-farmer dominated outgrower systems as ALCOSA's broccoli in Guatemala and ASAGRO's asparagus in Peru.

For these reasons, agribusiness critics argue that agribusiness growth will squeeze out small farmers as large commercial farmers expand their operations. Yet this has not happened in any of the cases studied, nor does it seem likely in the foreseeable future. Agribusinesses do contract with small farmers and small farmers do share in the resulting economic growth and transfer of technology. Why?

One reason is political. The same political motivations that lead agribusiness managers into outgrower programmes in the first place – the desire to avoid owning large areas of land and to avoid the direct hiring of a unionized labour force – lead them to want to include smaller and poorer farmers as beneficiaries of their programmes. Some of the cases reviewed, like Standard and United's profitless melon and cucumber projects in Honduras, appear to be maintained by the agribusinesses at least in part as public-relations exercises necessary to keep their profitable traditional agribusiness operations going. Others, like the Mumias and the Honduras sugar projects, are largely political creations, involving crops for which small outgrowers are not particularly well suited.

This essentially political motivation is increased when the inclusion of small outgrowers permits access to credit at concessional rates from financial institutions founded by international development agencies. Virtually all of the cases studied used such credits when available. In Peru and Guatemala, funds originating in USAID were 'on-lent' to small growers through the firms. In Honduras, funds from the Inter-American Development Bank were channelled through the national development bank to banana growers' cooperatives, which sold their fruit to TNCs.

Another reason is the economic rationality of the potential outgrowers. Larger, more commercialized farmers have, on the one hand, more options than small farmers (more access to credit, inputs,

markets, more capacity to absorb risk) and on the other hand more cash expenses, since less of the managerial or production labour is performed by unpaid family help. Agribusinesses have often found, as ALCOSA did, that after agribusiness normalization has occurred, small farmers remain highly motivated to continue as outgrowers while larger farmers prefer competing non-contract markets. These may require farmers to provide their own financing and inputs and to take more risks, but they may also provide more potential for profit.

A third reason agribusinesses may prefer smaller farmers is that they have less power or influence, and less ability to involve troublesome government officials, agencies and lawyers in the event of a contractual dispute. In a plant capacity crisis, ALCOSA was able to stop the purchasing of contracted cauliflower from small indigenous farmers, but had a harder time stopping purchases of okra from large commercial operators.

Finally, agribusinesses producing luxury goods for demanding export markets (fresh fruits and vegetables, some frozen goods, canned asparagus) must have extremely high quality raw materials. They have often found that small farmers and their families, with their personal involvement in their operations, are more likely to produce high quality products than larger farmers who must supervise hired labour forces. Though this point should not be overgeneralized, small farm size can provide a significant advantage in producing high-quality, labour-intensive crops if growers have access to technical assistance and other needed services. This condition is more likely to obtain under contract farming than under any other arrangement.

(f) What is the social status of contract farmers?

The largest farmers in less developed areas rarely participate in contract farming. They tend instead to grow traditional cash crops such as coffee or cotton, to control or have bargaining strength in dealing with their processing and marketing organizations, and to reserve their diversification efforts primarily for nonagricultural activities. Middle sized farmers – differentiated from small farmers by their ability to transport a day's harvest to buyers in an owned or rented vehicle – occasionally do choose to become outgrowers. They do so when initial promotional pricing makes an outgrower contract the most attractive market available; when the agribusiness supplies all technology, labour, and equipment, so that the purchases become

de facto land-rent for unused fields; or when the contract can provide an assured market for a product which thin local markets could not absorb (e.g. tomatoes in Honduras); or when the contract will balance the risks associated with the growers' principal crops and markets.

The phenomenon of 'prestanombres' or frontmen referred to by Feder (1977) was not encountered frequently, though it did appear in sugar in Honduras and potatoes in Canada. In such cases, the suitability of the crop for large-scale mechanized production, legislation affecting land use, and the sociological characteristics of growers were all important factors.

The social status and characteristics of farmers are important to an understanding of the outcome of agribusiness–farmer interaction. Similar company practices can produce very different results depending on the nature of the growers, as the ALCOSA case illustrates. The effects on women, on the growth of cooperatives and other aspects, varied considerably in the three study villages, and depended more on local culture, ecology and history than on the company.

Contract farming is likely to be particularly attractive to small farmers. There are external reasons, already described, why limited options make relatively low contract prices more attractive to smaller farmers than to others. There are also more positive internal reasons why contract farming can fit particularly well into the economic development strategies of some small farmers (Kusterer, 1987).

The first economic development goal of small farmers is normally to establish a minimally capitalized and reasonably secure economic base for subsistence farm- and household-work. Without this, they cannot survive as farmers or even as rural farm workers. Once this is secure, their search is for cash income to purchase basic necessities that cannot be made in the household. In this search for income, they seem naturally to prefer a diversified approach which will spread the risk and bring income directly into the hands of each individual male or female adult member of the household. The income-producing activities can include the sale of labour, farm products, or non-farm home-based goods and services. Most small farmers seek income from all three.

For the smallest farmers, contract farming is by far the easiest way to enter more lucrative remote markets for high value crops. It offers much higher income potential than traditional local market crops, especially when the prices for these are government regulated, as they were in Honduras, Peru and Kenya. Because of farmers' risk aversion and diversification strategies, the activity they typically give

up to undertake contract farming is other cash crop production. They did not give up subsistence or women's income activities. They gave up off-farm wage labour only if it was traditionally subservient and low-paying (coffee-estate harvesting, cotton picking, daily farm labour, domestic service); never if it was non-agricultural, non-seasonal or higher paying. Because of these considerations, contract farmers were rarely the largest, and not necessarily the most progressive farmers, but the ones with few enough other options that contract farming offered the best available combination of income enhancement and risk reduction.

(g) What are the effects on women?

Women are potentially affected by contract farming through two routes. As members of outgrower households, they are affected by the shifts (of labour allocation and income generation within the household) wrought by the new contract farming activities. As members or potential members of the wage labour force, they are affected by shifts in employment opportunities resulting from direct and indirect agribusiness hiring.

In all cases, contract farming led to large increases in outgrowers' farm production. In a few cases – McCain potatoes, sugar everywhere, – this increased production is largely handled through new access to specialized mechanized equipment, so that farm labour time is not greatly increased. It is more common, however, that increased production leads to large increases in the amount of family farm labour required. In these cases, one sees the familiar story that women's work increases greatly, while the increased income comes into the household through the male, with whom the agribusiness has its contract. Women's work increases because the labour intensity of the contract crop draws women into the work of farming the household's main cash crop, without lowering (at least initially) any of her obligations in the subsistence and petty-commodity sectors of the household economy. Men, on the other hand, work in contract crops instead of other cash crops or the off-farm work that they previously engaged in. Their work load also increases, but not as much as the women's and their incomes increase to compensate.

In the cases where female outgrowers were interviewed separately by female researchers (Guatemala and Peru), the respondents expressed no dissatisfaction with this aspect of contract farming. These

also happened to be two of the cases where these increases in women's work loads were most evident. In this a sign of traditionalism or false consciousness? Not necessarily. In the long run, their own economic development as women, as well as that of others in their households, depends on shifting labour resources out of low-productivity subsistence tasks into higher productivity work. This can only happen by improving the productivity of subsistence work, since so many of these tasks that fill poor women's days are necessities for human survival. This requires increased income, to buy productivity-enhancing appliances (fuel efficient stoves are a classic example) and to purchase some inputs (milled grains, fuel) that had previously required the most time to produce at home. In both Guatemala and Peru, outgrower householders were making these purchases just as rapidly as women's influence over their increased incomes permitted (i.e. after men had bought farm equipment and a transistor radio to take out into the fields). Women used small loans and time payments (particularly in Guatemala) to speed up the process. This prospect is what made the outgrower women willing to make the sacrifice of an initially increased work load. Their interest in these purchases is a practical strategy for a long-term improvement in the quality of their lives.

The most positive transformational effect of agribusiness on women's lives came not from contract farming but from processing-plant employment. Small-town and rural women who worked in the packing sheds, canning plants or freezing factories were nearly unanimous in reporting that the employment increased their self-esteem, self-confidence, and household influence. Paying legal minimum wages, not often available to women in informal employment, these jobs dramatically increased women's incomes. Female employees became major, if not the major, earners of outside income in their households, and this empowered them in their relations with husbands and fathers. Even when dissatisfied with specific working conditions or wage levels, they were highly satisfied with their new roles as wage workers and intended to remain in the plant as much as possible throughout the life-cycles of marriage and motherhood that lay ahead.

The hardships of 'double shift' work in home and plant, and conflicts between wage work and household duties, were universal sources of difficulty. They were resolved by kin-based arrangements that shifted household work and childcare onto other women who were compensated in cash or kind out of the wage worker's increased

income. Only in rare instances did any of this work shift onto male household members, even if they were relatively underemployed, as many were in Peru. Nevertheless, the women interviewed considered these problems a relatively small price to pay for the improvements they felt employment had brought to their lives.

These very positive changes were much less pronounced for women working for local subcontractors or larger outgrowers, since these provided more temporary and sporadic employment. In general, the impact of agribusiness on women through factory employment was much more significant than the impact through purchases of raw materials from outgrowers.

(h) What are the effects on labour?

One of the principal effects of agribusiness growth is increased employment, direct and indirect, in processing plants and in agriculture. Although the evidence is that food processing is not particularly labour intensive and investment-to-job ratios can be quite high (Checchi & Co., 1977, 1978), it nevertheless offers more hope than most industries for bringing industrial employment opportunities into the rural areas where the poorest people live. In these case studies, agribusiness generated new employment in many different forms.

Key variables affecting the developmental quality of the new employment were the following: (a) whether the crop or process was traditional (sugar, rice, bananas) or nontraditional (export fruits and vegetables, canning or freezing); (b) whether the employer was a transnational (ALCOSA, Standard, United), a large private national (McCain, ASAGRO), a mixed parastatal (Mumias), or a local private firm (subcontractors and large outgrowers in various cases); and (c) whether the employment was in processing or agriculture.

Traditional crops and processors hired more men than women, and organized the work in less 'modern' ways (with less technical division of labour, less bureaucracy and less standardized treament of employees). Non-traditional processors hired women more than men and organized the work in more 'modern' and thus locally innovative ways. Trans-national firms and public enterprises paid better wages and fringe benefits (even if they were only the legally required minimums) than large national firms, who in turn paid better than local employers. Processing plant jobs were better paid than all agricultural jobs except tractor drivers and equipment operators.

Although this book deals principally with small farmers, agribusi-

ness firms occasionally contract with large farmers; the banana industry is the most obvious example. These cases raise interesting issues about the welfare of workers employed by the large contract farmers.

In the Latin American banana industry, workers employed by the transnational firms have wage levels roughly double those of workers employed by contracted plantation owners. Social benefits and housing are also noticeably superior. This is probably a result of the unionization of TNC plantations, in contrast to locally-owned plantations where unions are rare.

There are also indications that agricultural workers employed by the parent company enjoy greater stability of employment than the employees of contract farmers. Greater stability of sales by the parent firm means more stable demand for labour; this tendency is reinforced by pressure from unions. Contract growers are utilized to some extent as reserve suppliers, and fluctuating demand is reflected in fluctuating employment. This is apparent in both the banana and sugar industries in Honduras.

Canning plants, freezing plants and most packing sheds followed international agribusiness practice – and thus differed from local practice in every case – by giving preferential hiring to women. These are also in the best categories in all other areas (processing rather than agriculture, nontraditional rather than traditional, nationally or transnationally rather than locally owned) with the result that they often offer better jobs than are locally available to non-skilled men. It is not surprising how enthusiastic women are about these jobs. Women like the bureaucratic, impersonal management style, the well-defined divisions of labour, the time clocks, and the chance to work with large numbers of other women. These features, usually perceived as alienating and anomic aspects of modern capitalism, represent improvements over the patriarchal and paternalist work conditions previously available to women as domestic servants or small business employees. Employment in these large plants also meant access to social security and health benefits, which in Peru conferred the right to medical care not otherwise available at any cost.

General satisfaction in these large plants does not translate into docility. The women in Guatemala had gone on strike in the plant's early days of operation and in Peru they held a sit-down strike that lasted for weeks. Ironically, it is a testament to the self-confidence and personal empowerment brought about by these jobs that women

were able to act so strongly when they felt that specific grievances warranted action.

Employment in smaller scale, traditionally organized, locally owned, and farm-based jobs did not confer any of these benefits except the significant one of increased income. They increased employment among populations whose access to land was limited and access to income chronically inadequate. Even when pay and working conditions were low by international and even local standards, these seasonal and temporary jobs still represented an important additional source of income in the domestic economies of the poorest local households. Though not 'transformational' as employment in the larger processing plants was, these jobs made possible incremental improvements in living conditions.

(i) Does contract farming promote socio-economic differentiation?

It is a common idea in rural development studies that the growth of commercial agriculture leads to social differentiation of the peasantry. This hypothesis has its roots in Marx: that the growth of capitalism leads to competition among independent artisans and farmers, with the larger and more successful minority becoming bourgeois employers while the majority are squeezed out to become wage labourers in the growing capitalist enterprises. Empirical support came from the experiences of the then presently developed capitalist countries and from the observation that the more developed a country, the smaller a proportion of its workforce is engaged in agriculture.

While not necessarily invalidating the general proposition, the evidence from the case studies is that contract farming is at least as likely to prevent social differentiation as to enhance it. The mechanisms that normally create social differentiation in commercial agricultural growth are; differential access to land, inputs, credit, new techniques and markets. Larger peasants normally have better access to these factors. If successful, they can soon afford to buy or rent more land, buy even more expensive inputs, and so continue in an expanding cycle of increasing agricultural productivity. Their demand for land drives up prices and rents; their demand for labour drives up agricultural wages; and slowly their smaller neighbours are both pushed and pulled into becoming farm workers rather than farm owners.

Contract farming can act as a leveler, reducing risks and increasing access to inputs, credit, new technical knowledge and markets. Only

the original landholding differential remains as a factor, causing larger farmers' income to rise faster than that of smaller farmers. For labour intensive high value crops, even this factor can be reduced because family labour on small plots can produce higher quality, higher yields and greater income *per* acre than can larger farms.

Thus, in most of our major case studies, contract farming reduced social differentiation among participants more than it increased it. The smallest outgrowers shifted their family labour allocations from off-farm labour to work on contracted crops, reversed their movement into the paid labour force, and enjoyed greater increases in income (in percentage terms, though not in absolute terms) than the larger outgrowers. In parts of ALCOSA's growing region in Guatemala, peak-harvest labour scarcities, caused by small outgrowers' unwillingness to work off-farm during their own fields' peak labour period, forced larger outgrowers to cut back on their contracted acreage and shift to other non-contract crops, like cabbage, with earlier or later harvest peaks.

Over the long run, social differentiation among outgrowers will probably still occur. Small outgrowers must use a larger proportion of their increases in income to provide themselves with a more adequate level of basic human needs – food, shelter, clothing and health care. Larger outgrowers, presumably, will have more of their increases in income available to reinvest in productivity-enhancing capital or, as they often prefer, to invest in secondary and post-secondary education for their sons and (less often) daughters. Eventually, if this continues over a period of years, the larger farmers will raise their incomes and living standards at a more rapid pace than the small farmers around them. Nevertheless, contract farming appears to be the most slowly differentiating route yet known for the transition from traditional local market agriculture to highly commercial capitalist agriculture.

Only in the McCain case could one offer an interpretation in which contract farming accelerated differentiation. In this case, there are some indications that larger farmers are better able to prosper in the processed potato industry than small ones, and that McCain's purchasing practices exacerbate the tendency. The general tendency to fewer and larger farmers is found throughout Canada, however, and it is difficult to know how much of a role agribusiness played in accelerating this tendency in the St. John valley.

These observations apply to differentiation among the outgrowers in a contract farming system. Differentiation between initially poor

participants and poor non-participants, on the other hand, did occur in all these cases, and can be quite rapid. In the state planned contract farming system, Mumias in Kenya, more people wanted to participate than there was land available to allocate, so some form of selection system, based on low level government contacts and influence, was applied. Some were excluded against their will and the selection system was not entirely random. The fairness and efficiency of the selection system is a key issue in the large state-directed outgrower schemes in Africa and Asia. In the more purely private enterprise systems, however, selection was wholly voluntary. Field staff promoters signed up all those they could convince to participate and the farmers themselves chose to stay in or out. In these cases, the resulting differentiation was largely the result of personal choice.

(j) What are the effects on farming and management skills?

Agribusiness can produce dramatic changes in the farming and management skills of small farmers over relatively short periods of time. The case of ALCOSA in Guatemala is perhaps the most impressive, where farming systems and household dynamics changed markedly in a few years. The ASAGRO case in Peru was also dramatic, with the firm developing new technologies as well as disseminating established ones. Rapid technology transfer is most likely to occur when a new crop has been introduced and when quality standards are important, as in speciality crops for export.

Some production techniques are highly crop-specific and are not transferable to other commodities. The management skills learned through participation in an agribusiness scheme are more widely applicable, however, and include accounting practices, negotiating skills, awareness of the importance of quality and characteristics of export markets and contract provisions. These management skills are most likely to be developed in schemes where producer prices closely reflect quality and final market prices; where farmers receive detailed accounts of the company's payments for crops and deductions for inputs; and where farmers are given substantial responsibility for managing their operations, rather than operating within a scheme where control is highly centralized.

(k) What are the effects on the process of grower organization?

In cases where individual growers are dissatisfied with their relation-

ship with the company, a very common response is to attempt to form a growers' organization. The contracting situation typically contains some elements which undermine those efforts and others which further them.

One of the factors which impedes organization is the frequently heterogeneous composition of the contract growers. In Honduras, for example, firms have contracts with peasant farmers, large absentee landlords, and modern business farmers. The interests of these various types are quite diverse and this seriously impedes efforts to organize politically. Most significant is the presence of absentee landlords who often plant sugar simply to keep the land in production and thus immune to expropriation under the agrarian reform law.

In a few cases, these absentee landlords are simply 'front men' who turn over *de facto* control of their farms to the company. They are not particularly concerned about the product price and may even settle for a small loss on the contract as an alternative to losing their land. These growers have little in common with the profit-oriented growers and do not want to be bound by any collective agreement a bargaining group might negotiate. Generally, when agro-industrial firms concede higher prices in such agreements it is only in return for higher yields, higher quality standards, regular deliveries and so on. While the progressive farmers might benefit from such an agreement, traditional landowners would be sure to lose. In Honduras and in Canada the presence of non-profit maximizing growers among the firm's suppliers (large sugar growers and 'front men' in Honduras, Dutch immigrants in New Brunswick) has been a major organizational problem. It is possible that firms deliberately include such growers among their suppliers for this very reason.

Another split which has undermined grower solidarity at the regional or national level, is that between simple producers and producer/shippers. This split was found in the McCain case and among Ecuadorian banana producers (Glover, 1983; Larrea *et al.*, 1986). In the potato industry in Eastern Canada and the banana industry of Ecuador, some producers also purchase produce from other growers and sell it to exporters. Exports provide an alternative outlet for growers who do not have contracts and for varieties not purchased under contract. In both countries, producers have attempted to form broad-based organizations involving all producers, regardless of their ultimate market outlet. However, producer/shippers have access to market information that simple producers do not and are therefore in a position to take advantage of the latter. Since they can

always sell their own produce, they have no interest in reforms designed to improve the market access of small growers; in fact, they oppose such reforms since they use simple producers as reserve suppliers. Nor do they favour measures that would stabilize the market, since fluctuating prices provide these shippers with the opportunity for speculation. The interests of simple producers and producer/shippers are quite divergent, yet it is politically very difficult to exclude the latter from national or regional growers' organizations. When they are included, they tend to dominate the association and subvert its goals as perceived by the simple producers.

Just as the diversity of interests among farmers has presented difficulties, so have the ambiguous interests of individual farmers. While growers may perceive the long term benefits of organizing themselves, the contracting relationship also encourages individual interest promotion. As mentioned, no contract is perfectly contingent and each gives the firm room to provide some growers with better conditions than others. This encourages growers to cultivate friendly, even personalistic relations with the company and to refrain from antagonizing it by joining growers' organizations. In New Brunswick, leaders of the National Farmers Union (NFU) tried to form a broad-based potato growers' organization of the type described above. NFU leaders said that, initially, contract growers were the easiest to organize. These growers had a visible, concrete adversary to focus on (the firm) and specific complaints against it. Once it came time to take concrete action, however, these same growers were the first to back out. The processing firm provided a focus for resentment, but it was also the sole source of income for these growers. If we can generalize from this case, the vulnerable position of many contract growers appears to arouse resentment at the same time as it inhibits risk-taking.

On the other hand, there are elements in the situation which promote grower organization, particularly when a fairly homogeneous group of small growers is involved. In such cases, issuing instructions and inputs to growers and seeing that planting and harvesting dates are observed can be difficult when hundreds of dispersed growers are involved. Some kind of growers' organization is usually helpful and in some cases the companies involved have actually encouraged the formation of such groups.

In Guatemala, for example, ALCOSA found that grower discipline in villages like Santiago, which dealt with the company through organized coops, was much better than in other villages. In Santiago,

there was a manageable process for growers to use to negotiate with the company, and one result was that individual farmers did not engage in a daily struggle to 'negotiate' by slipping lesser quality product past the company inspectors. In Santiago, the coop weighed, inspected, and recorded individual deliveries, at great savings to the company, because they could be trusted to do what they had agreed to in earlier negotiations. In Patzicia and other villages, the company had to hire people to do all this, at greater expense and in the face of the passive opposition of the farmers, who had not negotiated quality standards but experienced them as being arbitrarily imposed by the firm.

Likewise in Peru, ASAGRO was able to get growers to reduce the length of asparagus stalks – at great savings to the company and at great cost to the growers – by recognizing their new growers' association and negotiating a compensating price increase. Within a week, all asparagus deliveries were coming in with the new shorter length, a result that could never have been achieved if each grower had to be personally convinced to make the change by company field staff. In both these cases, the very independence of the associations from direct company control gave their decisions the legitimacy necessary to get voluntary grower cooperation.

In both these cases as well, the felt need to have a body capable of representing farmer interests before the company gave an impetus to the organization of these individualistic small farmers that would otherwise have been difficult or impossible. The very successful Guatemalan coop was initially able to organize only because farmers had to join it to gain access to the ALCOSA market for their vegetables. Coop organizers stated that this was the main reason that farmers joined. In Peru, the growers' association was the only organization of any type in the area that these farmers joined, and the weekly meetings of its small local groups served many social purposes as well as providing a forum for sharing opinions about asparagus operations.

Cooperatives formed by growers, with or without company encouragement, have in some cases restricted themselves to their original function and, in others, taken on new tasks, such as the collective production or marketing of other crops.

In Guatemala, the coop went on to develop other new agribusiness markets as a result of its experience with ALCOSA. Members now grow crops for five or six different buyers, using a cropping pattern that maximizes their individual income without inconvenience or complication, since all crops are delivered to the coop which sorts, weighs, and sells them for the farmer and pays him weekly with a

single cheque. On a similar but less developed scale, the asparagus growers' association in Peru has gone on to represent the growers with other agribusinesses who entered the market after the period of this research.

With this type of organization, small farmers become an organized interest group in the economic and political life of their region. With interests to protect, they are consciously or unconsciously drawn into the informal and formal local arenas of everyday political interaction. Thus drawn into 'the system', they almost inevitably come to express dissatisfactions in reform-oriented terms and to reject revolutionary solutions to overthrow the system altogether and begin anew. The ALCOSA buying zone in Guatemala has been the least radicalized highland indigenous area in the country during the guerilla struggles of the last eight years (a correlation that does not prove cause and effect but is hard to dismiss). Farmers there and in Peru have been involved in highly visible disputes to protect their interests; in both cases the political context is often a violent one, but their organizations have consistently preferred to negotiate differences in places where that tradition has not been strong.

(l) How does contract farming affect elite–small farmer relationships?

The relations between the rural elite and the rural poor typically have a patron–client quality to them. In this traditional pattern of attempted mutual manipulation, subordinate clients profess loyalty to superordinate patrons in hopes of receiving personal economic benefits and favours. Patrons dispense these favours with arbitrary paternalism, effectively reinforcing client behaviour with such occasional rewards. The system is manipulative in the sense that there is never an open expression of conflicting interests. Patrons pretend to have nothing but the client's best interest at heart, and clients profess nothing but devoted gratitude for the patron's attentions. Neither party acknowledges the self-interested motivations behind their requests and expectations.

A patron–client relationship is for these reasons a very poor context for the communication of honest information, especially information that acknowledges the conflicting interests in the relationship. Processor–grower relations can be efficient and successful channels for providing technical assistance and for negotiating mutually acceptable quality standards only if they cease to be

traditional patron–client relations. In these case studies, the only successful example of contract farming which did not break down local patron–client norms was the McCain case in Canada. This experience appears to confirm our hypothesis, since it was also the only case in which technical assistance was not an important part of the firm–grower relationship and one of the few in which high quality was not important.

The introduction of contract relations, as new and non-paternalistic styles of elite–smallholder interaction, may be in the long run as important a benefit for the small outgrowers as the increase in their productivity and incomes. The new style raises the possibility of competing elite styles in the rural zone, giving small farmers new possibilities for playing the rural-elite off against each other and increasing their freedom to manoeuvre. The contract relation is also one of formal (though not substantive) equality between the two contracting parties, which allows the subordinate more respect, responsibility and self-esteem than more traditional patron–client forms. This being the case, contract relations permit a more honest acknowledgement of potential conflicts and a more open negotiation of their resolution. The result is that both parties are more likely to maximize their benefits from the relation, making it more efficient both in the passing of information and in the realization of both parties' objectives.

(m) What are the effects on food production and nutrition?

The impact of agribusiness growth on the food supply and the nutritional status of the rural poor has been much debated. Since contract farming schemes often produce export crops, it is argued, they do not contribute to food self-sufficiency and may in fact undermine it by diverting land from the production of food crops. The argument should, however, be qualified in a number of respects.

(a) Some of the crops produced by TNCs, notably sugar and oil palm, are destined for import substitution in the local market, although quantities may also be exported.

(b) Local conditions are sometimes more suitable for export crops than food crops. In such cases, there can be a significant welfare gain from trade. For example, a cooperative of former banana workers was formed in Honduras in the early 1960s to farm land formerly planted to bananas. The coop experimented with

many food crops, but found that they did not grow well in these soil and drainage conditions. On reverting to bananas (the export crop) the cooperative's income increased to levels far above those of foodcrop producers.

(c) The reject rate in fruit and vegetable export operations often reaches 50%. These rejects – often set aside merely for reasons of ripeness or size – can be sold in local markets for a fraction of the price paid by consumers in industrial countries. The produce has equal nutritional value and can complement the traditional starchy diet of low-income Third World consumers. In ALCOSA's growing zones, reject cauliflower and broccoli are so widely and cheaply available that they have become a highly nutritious staple of the very poorest people's daily pottage, and a feed supplement to any animal that will eat it. The leaves and stalks are also used, as animal feed and as an organic fertilizer for the non-contracted (mainly subsistence) crop fields. The same story could be told for the melon and tomato case studies.

(d) The production of export crops and food crops can be complementary. Irrigation water in sugar schemes has been used to grow vegetables for local markets. Fertilizer applied for one year on an export crop can have residual effects the following year on a rotation food crop.

(e) Export crops do provide income for local producers, many of whom are smallholders. Control of foreign trade by multinationals may depress prices below the level they would reach in a freer market, but apparently it still provides prices that are attractive to some producers. In many cases, the biggest margins are taken not by TNCs but by government marketing boards and state-managed corporations.

(f) Finally, and related to the previous point, in specializing in export crops, TNCs are often responding rationally to the incentives embodied in government pricing policies. If producer prices for food crops are kept to a level that is not remunerative, neither TNCs nor local farmers will produce them.

An important empirical question to answer in addressing the food production issue is, what was displaced to produce these export or urban products? With respect to land, several examples can be cited. The Mumias case was essentially a colonization project. Before the

sugar, the area was sparsely populated and the land only sporadically cultivated; the entire present population emigrated to the area to take part in the project. ASAGRO likewise is located in a former desert, where local farmers could not afford to level the land or build up the sands into soil to make use of the newly built irrigation system. Before asparagus was alfalfa, the only other colonization crop that grew at all in the irrigated sand. It too was a cash crop, though a much less lucrative one, sold to nearby large landowners to feed animals that local farmers could not afford to own.

ALCOSA vegetables displaced some corn, wheat, and beans, but mostly other vegetables (cabbage, carrots) sold at volatile prices in nearby city markets too thin to support the level of production which farmers were capable of growing. Similarly, McCain potato growers formerly grew fresh-market potatoes for regional urban consumers. In these cases, as in the minicases in Honduras and elsewhere, the outgrowers either substituted new cash crops for old ones or colonized land previously unused for agriculture. Since few subsistence fields were taken out of production, there was no reduction in the local food supply.

With respect to labour, it is clear that outgrowers substituted contract farming more for other income sector activities than for subsistence activities. (We consider 'subsistence' labour as housework and personal services as well as subsistence farming, and 'income-producing' sectors as home-based micro-enterprises, off-farm labour, and cash crop farming.) If we further subdivide the income-producing sector into men's income and women's income, it is also clear that women's income activities (artisanry; market sales of 'sideline' crops like flowers, eggs and poultry; trading; part-time herbalism or midwifery) are usually not diminished. Men's off-farm labour and men's cash crops (which may nevertheless have used much female labour) are the activities foregone for contract farming (which likewise may nevertheless use much female labour) and it is men who get this increased income. That being the case, it is arguable that the income increases are not increasing family nutrition as much as they might have if the income increases had been in the women's sector of the small farm economy. It can be argued, as Kennedy and Cogill (1987) have, that the widespread practice of paying men for women's contract crop work is not only inequitable, but leads to less household expenditure on food than would payments to women. Some positive effects in this respect might also result from smaller, more frequent payments. But it does not follow that these inequities

are new ones, or that the increased income to men leads to poorer nutrition for women and children.

All of these cases involve a massive increase in the demand for farm labour, raising the wage levels in some cases and the number of work days available to farm labourers in all cases. This is a significant increase in the annual incomes of the poorest of the poor and probably has a tendency towards positive nutritional effects.

Although no direct nutritional studies have been made in these cases, indirect evidence indicates that nutrition among outgrower families is more likely to have improved than deteriorated because: household income has increased; contract crops have primarily displaced land and labour previously used on other cash crops rather than on subsistence food crops; women's direct incomes have not been lowered as men's incomes have risen. Among the poorest of the poor (rural farm labourers), nutrition has possibly also improved as employment opportunities and annual incomes have risen, while their own subsistence household sectors have not been adversely affected.

In summary, it appears that successful contract farming schemes create the possibility for improved nutrition and impose few if any conditions that would cause it to deteriorate. Without direct evidence, however, it is not possible to indicate what the actual nutritional effects are or what proportion of the potential nutritional improvements made possible by income increases are being realized. Our impression is that the proportion might be increased through changes in payment systems and perhaps by information programmes.

(n) What changes in firm–grower relations typically occur over time?

In order to secure a new source of raw materials, agribusiness processors must initially pursue promotional policies. High prices, low quality standards, more generous credit terms and other attractions are used to seduce outgrowers away from their previous markets. In this start-up phase, it is more important to establish the new source of supply than it is to maximize short-term profits. The extra expense of such promotional policies is written off as start-up costs for the new operation.

Once the new source of supply is assured and the processing plant

is operating at planned levels, the agribusiness objectives necessarily shift. Profit maximization requires continuing efforts to raise the quality and reduce the cost of the raw materials purchased. The company seeks to work with those outgrowers capable of providing the best product at the lowest price with the least amount of costly technical assistance. The company must still offer contract terms sufficiently attractive to motivate the most efficient and highest quality outgrowers, but it does not mind if lower prices and lesser technical assistance drive marginal producers out of the programme. This is the '*agribusiness normalization*' process, an inevitable dynamic of processor–outgrower relations.

Initially, processors and growers need each other to make anything happen at all in this new market. This interdependence, which never truly dissipates, will soon be submerged. For the daily reality is one of conflicting short-run interests, and this short-run tension can hide the long-run mutual interest in continued cooperation. Once normalized, the relations between outgrowers and processors are full of continual low-level conflict, as each side seeks to maximize its own benefits to the point just short of severing the relationship altogether.

The impact of this daily conflict on the small outgrower is not necessarily negative. Distrusting the company, he learns to keep his own accounts. Having learned what inputs are needed, he is constantly on the lookout for lower cost alternatives to company supplies. He learns from bitter experience about contracts, legal agreements, credit laws. Ultimately, he seeks competing contract buyers, his best defence against the possibility of exploitation.

If the contract farming arrangement is even partially successful, competing contract buyers will arrive on the scene. With raw materials already available from outgrowers needing less technical assistance, later-arriving processors can often afford to compete by offering higher prices, since their start-up costs can be so much less than those of the processing pioneers. In both Guatemala and Peru, smaller competing buyers are already operating in growing zones pioneered by the original export processors. This does not always happen. In New Brunswick, McCain is still unchallenged after thirty years of potato freezing operations. But if competition does develop and the original processor loses its monopsony advantage, the situation may again shift slightly in favour of the outgrowers.

(o) What are the broader rural development effects of contract farming?

Local governments often favour contract farming in the belief that it will produce greater spillover or linkage effects with the local economy than would plantation production. Our study found significant variations in this respect. For the labour-intensive fruit and vegetable crops, a multiplier is clearly present in the great expansion of daily farm labour employment made necessary by the new contracted crops. There are also, in all cases, very significant new employment opportunities in the transport and processing activities located just upstream, nearest to the farm sources of raw material supplies.

For traditional crops, and in cases where a highly mechanized and centralized production system is transferred to large outgrowers, the situation is different. Here the nominal transfer of legal responsibilities *via* a contract does little to change the economic imperatives of the production system.

In the banana industry, for example, the linkage effects of local production are not much greater than TNC production provides; nearly all of the inputs used by associate producers are provided by exporting companies, which either import them duty-free (in the case of chemicals) or produce them in Honduras (e.g. boxes and plastic bags). Moreover, as Ellis (1977) shows, the linkage effects of any form of banana production are very slight. Nor is there any reason to believe that associate producers would be less likely to evade taxes than TNCs; while the latter have more sophisticated accounting tools at their disposal, local producers are generally too small and numerous to make careful audits by the tax authorities worthwhile. The issue is less contract farming *vs.* its alternatives than the management- and capital-intensity of the production system.

Apart from employment, is there a spillover for the outgrowers themselves into other areas of rural development, or is all their increased income spent on increased consumption? Do outgrowers make productive investments in areas outside of the contracted farm activity itself? There is evidence of such investment, in some cases more than in others, but the amounts involved, and the kinds of activities invested in, often make these changes almost invisible to the outside observer.

In the two systems involving recently colonized land, Mumias and ASAGRO, subsistence farming systems did not fully utilize the acreage available where physical and organizational farm-to-market

infrastructures were only incipient, and where farm families have been accustomed to men's off-farm and out-of-area work as a main source of income. Women concentrated their efforts – stretched thin by daily subsistence work requirements and the labour required on the contract crops – on building the productive capacity of the household's subsistence economy sector. Expansion and diversification of the household's commercial farming activity – very important in Guatemala – did not occur at all. This choice was probably the result of both the lack of perceived opportunities and the need to bring the subsistence sector up to culturally expected levels of production. Investments and production increases in the subsistence farming sectors of these farms were particularly impressive in Peru, limited only by the lack of family labour. The cases in western Kenya, and especially Peru, performed well in terms of opening up underdeveloped areas of the country. Roads, rural infrastructure and, in the Santa valley, the creation of arable land itself, have been direct results of the establishment of agribusinesses.

In the three LDC cases, an important area of family investment was in the increased education of dependants. As soon as financially able, families were willing to make the financial sacrifice of foregoing children's subsistence labour to keep them in primary school more days and more years. Additionally, families able to do so sent boys out of their areas to attend secondary schools to earn credentials qualifying them for steady non-farm employment. This seems to reflect a judgement that the family's economic future would be better served by human capital investments which get members out of agriculture, rather than by farm investments. There was no obvious difference in this strategy between farm families in Guatemala, whose adult men had returned from outside employment to contract crop farm work, and farm families in Peru and Kenya who hired outside labour so that adult men could continue their non-farm occupations.

Another area of investment was in household capital that contributed both to the subsistence economy and to the women's income side of the cash economy. This included the small farmer's traditional 'savings account' of domestic livestock, and some innovations, namely: the purchase of farm or household equipment that could be rented out or used at home; the purchase of inputs to increase the quantity or quality of artisan products; increased inventories of goods for resale in markets or home-based stores. Although these kinds of investments were very common, the levels involved were quite small

compared to the investments in contract farming activities and male children's advanced education. They were probably sufficient to raise women's incomes in absolute terms while they fell as a proportion of total household income. No cases were observed where the investment in this kind of production was sufficient to make a woman's micro-enterprise activity into a major 'full-time' business. The economic and cultural context seems more likely to have favoured this type of economic development in Mumias but the primary literature does not report it. This may be because it was not seen, as is often the case with 'invisible' women's work, or because it was prevented from happening by arrangements in which contract payments were made to absentee male 'contract farmers' rather than to the women who actually lived on and managed the farms.

Unlike some cases of plantation agribusiness, contract farming *per se* does not lead to enclave development. Through the diversification of small contract farmers, the increased income permeates their households and communities. Capitalization occurs, together with investment increases in subsistence agriculture, commercial farming, non-farm micro-enterprises and education. This economic development is more visible with larger farmers who can buy equipment such as tractors and pickup trucks, but it also occurs, less visibly but no less significantly, among the smaller outgrowers.

8 Policy Implications

This chapter explores some of the factors which policy makers must take into consideration in trying to promote or control contract farming schemes. The first part highlights some of the ambiguities and tradeoffs that can result, as different goals or internal dynamics come into conflict. The second discusses some areas in which positive sum solutions are possible, and where sustainable benefits to small farmers can be achieved through state intervention. The final section explores the degree to which successful contract farming experiences can be replicated in other contexts.

TRADEOFFS FOR POLICY MAKERS

If serious problems arise in an agribusiness venture and efforts by contract farmers to defend their interests are ineffective, intervention by government would seem to be indicated. This, of course, assumes a government responsive to the concerns of small farmers. Frequently this assumption does not hold. Agribusiness firms may exert greater political influence than growers, and even governments sympathetic to the latter may be forced to deal with problems more pressing than farmers' welfare. For example, pressure to squeeze the agricultural sector for foreign exchange earnings is overwhelming in debt-laden countries and may lead to a short term co-incidence of interests between governments and export-oriented firms.

Furthermore, it is an oversimplification to speak of 'the government'; one must distinguish among the often conflicting objectives of its various agencies. In the Honduran sugar case, private sugar mills purchased and processed the cane of local farmers. The National Development Bank provided credit to growers, a second public agency set prices for the firm's processed output, and the Ministry of Finance taxed its revenue. Each agency had a different objective with respect to producer prices. The Bank could be expected to favour a high producer price, since that would facilitate the repayment of its loans to growers. If producer prices were high enough to reduce the firm's profits, however, the Ministry's tax revenues would be reduced. Furthermore, the price control agency's interest would be in a low producer price, in order to keep the wholesale price of sugar

down to a politically acceptable level. In such situations, simple goals like 'maximizing smallholder welfare' are soon subordinated to the more specific objectives of individual agencies.

In spite of these caveats, there is evidence that some LDC governments have intervened on behalf of small contract farmers. Rama's (1985) survey of agribusiness in Latin America found many instances in which governments attempted to obtain better contract conditions for producers. This section assumes that such governments will continue to intervene and would benefit from more complete information about the effects of their interventions. The following paragraphs illustrate some of the difficulties that can arise in attempting to design effective policies.

The availability of alternatives is one of the most important preconditions for a contract farming situation that benefits small farmers. If the policy context is a dynamic one – if government has the means to increase alternatives *via* licensing, pricing policy and the like – there is no tradeoff. If the context is taken as given, however, and the choice is where to introduce CF (in competitive or non-competitive environments), then a serious conflict does arise. Farmers who have many alternatives are generally the more prosperous ones anyway – the ones who need help are peasants who can only grow a couple of basic crops or have only one middleman to sell to. If we say that agro-industries should only be set up in areas where there are already abundant alternatives, we exclude the target group.

Another equally tricky precondition for beneficial CF is that the company have no farms of its own. Clearly, a group of farmers who control 100% of a firm's supplies will be in a strong bargaining position. On the other hand, company production has positive aspects. A firm with its own farms will often have specialized machinery that it can rent to growers, and better technical assistance than a company that is strictly a buyer. Only large growers could afford to buy specialized machinery and they are likely to be in less need of advice than small farmers. The policy recommendation that would maximize the growers' bargaining power would also result in the exclusion of the target group.

This contradiction appears even on the apparently simple issue of price. A high contract price may not only drive the firm out of business, but also may attract inefficient growers who should probably be producing a different crop. If the price is too low, on the other hand, only the most efficient producers will be attracted, and

peasants who might be good growers if they got some help and experience will be shut out. Furthermore, the contracting relationship is not a 'zero sum game'; the distribution of benefits between the firm and its growers can affect the total magnitude of benefits available. For instance, an increase in the contract price will redistribute income from firm to growers, but it may allow the company to achieve economies of scale and thus greater long run profits. Investments in technical assistance to growers, which result in better quality produce or more reliable deliveries, can similarly benefit the firm. The point is fairly obvious but deserves emphasis. The 'non zero sum' character of the relationship makes it difficult, even in theory, to arrive at a distribution of profits that will maximize the long run benefits to growers. If the firm is 'pushed back' to a profit level just adequate to keep it in business, it will not be able to expand or set up other plants. The benefits from contracting, such as they are, will go to existing growers and not to new entrants.

Obviously, devising policies in this area is quite tricky. In addition to the types of conflicts just mentioned, there are serious difficulties involved in policing a contract. Many of the variables, such as who to contract with, are under the firm's control. It would be impractical to tell firms they cannot deal with absentee landlords, for example, especially when one of the goals of agricultural policy in many LDCs is to modernize these landlords and get them to produce commercial crops. Another problem is that most contracts involve too many variables to police effectively. Even if one can decide on a suitable price and fix it in the contract, as suggested by Scott (1984), there are many ways the company can get around it. It can manipulate quality standards, or raise the prices it charges for inputs, or delay payments and collect the interest in the meantime. If the firm really wants to sabotage the contract, there are a dozen ways to do it. There is probably not a great deal a government can do to police a contract and it should definitely not impose contracting on an unwilling firm or in an inappropriate situation.

POLICY RECOMMENDATIONS

A more promising approach than attempting to intervene in existing situations is to undertake more careful *ex ante* appraisals, drawing on lessons from successful and unsuccessful experiences. Research should attempt to define the conditions under which CF can operate

profitably to the benefit of small farmers and without intervention. For example, it is fairly clear that the preferred crops are those which do not require specialized machinery. Growers who have invested in such machinery can be effectively locked in to growing a particular crop, even if prices or relations with the company deteriorate.

It is a truism, but one frequently ignored, to say that smallholders are most likely to benefit when producing crops suitable for smallholder production. Many schemes have attempted to involve small farmers in crops better suited to plantation production, with poor results. An extreme case occurred in Honduras, where the government in the mid-seventies required all agro-industries to purchase at least some of their raw materials from outgrowers. In cases where firms could have grown their own crops more cheaply, the result was ill-will and the mistreatment of contract growers. It is entirely possible that these companies were in fact, trying to sabotage their contract arrangements in the hope that the government would retract the legislation.

Even in schemes which are well designed and contain the potential for benefit to both the firm and its growers, disagreements are likely to rise. The sheer number of transactions that take place and the subjectivity of judgements about produce quality lead to conflict. Governments should provide a mechanism to resolve such conflicts by requiring or providing a neutral arbitrator to whom growers or the firm can refer in cases of dispute.

The two most critical ingredients for a successful agribusiness venture are undoubtedly the existence of an adequate market for the product and an appropriate government pricing policy. The key advantage which an agribusiness provides small farmers is access to a large remunerative market. These farmers are often unable to exploit their comparative advantage in labour- and skill-intensive products because foreign markets are inaccessible and domestic markets are too 'thin': there are relatively few producers and consumers. Particularly for perishable crops, these markets are highly volatile and prices in them can drop by 50% or more following a single delivery from a large grower or cooperative.

Pricing policy is crucial in determining the profitability of an agribusiness enterprise, both for growers and processors. KTDA's success is in large part due to the scheme's exemption from export tax which allows the project and its growers to receive a large share of the world price. Sugar companies in Honduras, by contrast, sold their products in domestic markets at prices set well below market levels

by government. This in turn exerted downward pressure on the producer price. No other single factor is likely to exercise as much influence over the success and sustainability of a contract farming venture as pricing policy.

In contract farming, the processing or exporting firm provides multiple services to the growers: credit, technical assistance, seed, inputs, and so on. The provision of such a package is useful, but, related to an earlier point, it is the firm's role as a buyer of produce that is crucial. If a market outlet is available, growers will probably be able to obtain other services, though quality and price may not be optimal. Credit probably ranks second in importance. Provision of inputs or extension, however, are likely to have little effect if there is no adequate market for the product.

Growers should not depend on the scheme for more than a portion of their income; agribusiness should be seen as an additional, often seasonal, source of cash, rather than the farmer's principal livelihood. Ideally, the contract crop should be a second or third cash crop, rather than the only supplement to subsistence. Furthermore, agribusiness will be most beneficial when it 'opens' rather than 'closes' options: when the farming system is such that the new crop can be added to existing activities rather than requiring specialization. However, as noted elsewhere, this does introduce a bias away from the participation of the poorest farmers.

Experience also provides some lessons about other aspects of price policy. Price stabilization can, under a particular combination of supply and demand elasticities, lead to income stabilization for producers. If price stabilization is introduced, however, care must be taken in distinguishing short term fluctuations from long term trends and in ensuring that administered prices do not mask signals about quality requirements. Price signals have proved to be highly effective in indicating to producers the importance of quality and the consequent need for appropriate agronomic practices.

Size and frequency of payments is also significant. There are indicators, from Kenya for example, that small but frequent payments may lead to more expenditures on food, especially if payments are made to women. Large infrequent payments could in theory lead to more expenditure on large investments. Evidence to support these contentions is not completely convincing, however, largely because the use of informal capital markets tends to moderate the effects of different payment systems.

As KTDA and Mumias show, efforts by government to legislate

minimum acreages for food crops within CF schemes have been notably unsuccessful. Growers tend to have higher acreages and the relative prices of food- and cash-crops lead to higher incomes from specialization in the latter. The resources needed to legislate and enforce acreage requirements would be better spent in the analysis and management of effective price policies.

The studies also support the contention that both incentive and expenditure effects are likely to be superior when contracts are signed with and payment made to women, in those frequent cases where women are responsible for crop production. By modifying agribusiness schemes to more explicitly recognize and reward women's participation, these schemes can make a very significant contribution to women's income. This contribution is potentially far greater than that of small projects specifically geared to women, such as handicraft production.

Policy makers should also recognize that many of the benefits from contract farming will come via increased employment, either in the processing plant or by the medium and small contract growers who hire supplementary labour. Both the level and quality of this employment (in terms of skill acquisition, conformity with labour standards, and so on) is frequently superior to that available in traditional agriculture.

The benefits of agribusiness can also be increased by involving a growers' organization. Such organizations increase the farmers' bargaining power and improve coordination between firms and growers. In the short-run, these organizations can make it more feasible for firms to deal with a multitude of small growers, thus extending the benefits of the scheme. In the longer run, they can take over some functions performed by the firm, even including ownership of the enterprise. As discussed elsewhere, however, such associations, especially ones which do more than coordinate, are often difficult to organize.

As noted previously, agribusiness schemes are very risky, particularly those which introduce new crops and/or extend the agribusiness frontier into new countries or the least developed countries. The first company into a new field often fails. Only by learning from its mistakes and adapting the product to the market's requirements can subsequent firms succeed. Governments or aid agencies should find ways to reward risk-taking, perhaps along the lines suggested by Williams and Karen (1985).

REPLICABILITY

Over the last ten to fifteen years, the attention directed towards contract farming has come from different directions. Much early research reflected an interest in the 'new forms of investment' practised by transnational corporations; later research reflected the search for new kinds of rural development projects suitable for small farmers. In the late 1980s, there was much interest in new ways to organize agricultural production and marketing that involve less direct state involvement and increase the country's export earnings. Contract farming is becoming an element of the 'policy dialogue' between developing country governments and the donor community.

As yet, the number of farmers involved in contract farming is relatively small. What is of most interest about these schemes is not so much their actual effects but the potential for replicating their positive features in other schemes, spreading the benefits more widely. What are the limits to this replicability?

Projects of two different types have been described in this book, each limited by different factors. For companies exporting non-traditional high value speciality crops, the 'agribusiness infrastructure' described in the business school literature is very important. Reliable storage, refrigeration and transport are essential and the costs of air or sea freight are very important. These factors tend to limit successful operations to countries not too distant from northern markets, and to areas which have already undergone some development, rather than the poorest and most isolated regions. This frontier is constantly being pushed back, however. As technological innovations make long distance transport less expensive and labour costs rise in established areas, entrepreneurs will move outward, often failing in their first attempt but making things easier for firms that follow. This progression has been most obvious in Central America, where rising agricultural labour costs in Mexico induced firms to set up operations in Guatemala and Honduras. For some products with very high value-to-weight ratios such as strawberries and cut flowers, the range has extended to below the Equator in Africa and South America.

The second kind of scheme is state-directed, producing traditional tropical commodities such as sugar, oil palm, rubber or tea, either for import substitution or for export. Schemes involving these commodities are widespread in Africa and Asia, and two – KTDA and

Mumias – were described in this book. Here the limiting factor tends to be the management intensity of the schemes. A large ratio of managers, technicians and extensionists is needed to run the highly centralized projects and few developing countries can afford this. For example, KTDA, generally regarded as highly successful, operates with a ratio of extensionists to farmers about four times the average for Kenya (Lele, 1975, p. 14). This also tends to limit the schemes to high value crops, since the margins on basic foodstuffs are usually too small to support this infrastructure.

There are three ways that project managers might try to overcome these limitations. One is to expand the schemes to include larger areas and more farmers. However, processing plant capacity and the distances over which perishable goods can be handled will not leave much room for manoeuvre in most projects.

A second option would be to incorporate other commodities, such as food crops, into the schemes, spreading management costs over a wider range of activities. The project could distribute agro-chemicals for other crops; extensionists could provide technical assistance, perhaps using demonstration plots at collection sites; the project authority or growers' organization might market the secondary crops. The schemes could also be useful testing grounds for introducing new technologies for food crops under semi-controlled conditions, providing a necessary stage between the experiment station and dissemination through the market or nation-wide government programmes. This proposal does run the risk of overextending public or project resources and using cash crops to subsidize food crops.

A third solution to the problem of management intensity would be to forego efforts at tight centralized control and instead to manage outgrowers through less direct methods. Price incentives are often neglected as a way to influence farmers' behaviour. Price differentials can be applied to produce delivered at key times of the season or to desired quality grades. Transmitting world prices directly or with only slight cushioning to producers is also a more effective method of providing signals about the importance of quality than exhortation. Providing appropriate price signals, controlling a few key stages or inputs such as processing or provision of certified seed, and giving the farmers a stake in the enterprise's success and a voice in its management through shareholding and a growers' organization – these are likely to achieve the desired coordination and quality control more efficiently than attempts at direct control over each aspect of pro-

duction, provided that adequate information and technical assistance are also provided.

Clearly, the most successful cases in this book were ALCOSA in Guatemala and KTDA in Kenya. The fact that one is private and the other state-directed indicates that the public/private distinction is not decisive in determining the success of a scheme. Much more important are the selection of a crop suitable for small farmers; a pricing policy that reflects market signals, neither taxing producers, subsidizing them at the consumer's expense, nor sheltering them from market signals about quality; and a decentralized management style that leaves much initiative in the hands of growers.

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